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EDITORIAL—SOME HIGHLIGHTS

1. General Economic Scene

State :

Drought and Prices: With the good South West monsoon, the position of the southern part of the State, both with regard to irrigation and drinking water supplies considerably eased in August. In mid August, due to the heavy rains in the Mercara region, the daily inflow into Mettur touched 1.4 lakh cusecs one day and stayed above 1 lakh cusecs for a week. By August 20, the PWD announced that the Mettur reservoir was full at 120.88 feet and the storage 94,870 million cubic feet against a reserve maximum of 128 feet. There was the danger of floods but towards the end of the month the inflow receded to 50,000-60,000 cusecs and by drawing 30,000-40,000, the danger has receded. This means that this year's agricultural crop is assured of irrigation. Madras city continued to face water scarcity, as the tail-end rains in this area brought in 680 million gallons in the Poondi reservoir and nothing into the Red Hills tank. A 4 KM pipe line to convey the 680 million gallons from Poondi in the lined channel leading to the Red Hills lake, with giant pumpsets pumping out the water was constructed. The drinking water supply on alternate days in the city continued till the end of August, when good rains in the 4 days brought the storage of Poondi to 535 million gallons with an inflow of 580 cusecs. In light of this the government decided to restore the daily supply of 30 million gallons to the city. Meanwhile the engineers of Tamil Nadu and Andhra Pradesh have been meeting to study the feasibility of bringing Krishna waters to augment the city's drinking water supply. Prices in the State have remained stable at the relatively high level caused by drought. In some parts of Thanjavur district, paddy prices declined in both the wholesale and retail markets from of Rs. 75 per 57 kilos to Rs 69 at the wholesale level and from Rs. 2.50 to Rs. 1.90 per kilo at the retail level. Cumbu and cholam prices fell from Rs. 2.10 per kilo to Rs. 1.20 and dhal from Rs. 3 to Rs. 2.80. Tamarind declined from Rs. 4 to 3.60 and gingelly and coconut oils prices fell by 40 to 50 paise per kilo. The government of Tamil Nadu and Andhra Pradesh have not reached agreement over the purchase by this State of a part of Andhra Pradesh's 35,000 tonnes broken rice because of the price question. The millers regard the agreed price of Rs. 135 per quintal as uneconomical, their price being Rs. 190 per quintal. Despite this stalemate, in August, family card holders' in the income group of Rs. 500 and above in Madras were given an additional 5 kilos of rice per month and wheat supply was increased from 10 kilos to 16 kilos. The Union government has allotted 35,000 tonnes of rice to the State for September from the Central pool (compared to 7,500 tonnes in April and May, 10,000 tonnes in June, 25,000 tonnes in July and 30,000 tonnes in August) and 68,000 tonnes wheat plus 10,000 tonnes to the mills. Like cholam being sold at Rs. 1.40 per kilo (see last issue

page 451), ragi prices were reduced from *Rs. 2 to Rs. 1.50 per kilo. There is another 6-8 weeks during which the State will face a difficult situation before the Samba* harvest appears on the market. CSO's monthly abstract shows the first small decline in consumer prices since 1973, for February 1975 at 326 (323 for March) compared to 327 for January, with a fall in food prices from 367 in January to 364 in February. The consumer prices for Agricultural labourers were however rising from 429 in January to 441 in February and in the case of food from 429 to 441. Consumer prices for urban non-manual employees, unlike the trends reported in past issues (see Vol V pp 263, 332 and last issue p 460) showed a sharp drop in Tiruchirapalli from 323 in January to 233 in February, overtaking the price fall in Madras from 311 in January to 306 in February. This is largely due to the fall in food prices in the interior which will be analysed again later and their continued high prices in Madras city.

States' Loans : 10 States announced their loan programmes on August 18 for the current year totalling Rs. 161 crores. Tamil Nadu's issue is the third largest at Rs. 23.75 crores, following UP Rs. 35.75 crores and Maharashtra Rs. 24.50 crores. All the loans carry a 6 per cent interest, are open for subscription on September 1 and closure on September 6, with the right to retain subscriptions up to 10 per cent of the notified amounts and being redeemable at par in 10 years. The *investment programmes of the States will be financed by this loan.*

Power : The power situation in the State continued to be normal and surplus in August, with the restrictions on HT consumers completely lifted in mid August. The State's power system has for the past 3 years come to acquire basic seasonal character. During July to September the State has surplus power because of the well filled reservoirs and the power generated by their being used fully for irrigation. Thus of the 17 power stations with 1,224 MW of hydel capacity, 9 with 633 MW are linked with irrigation and power from these stations which is in excess over the demand from July to September, disappears as the reservoirs become completely dry from February to June. In August the total storage of hydel reservoirs excluding Mettur was 1,669 million units against their capacity of 2,246 million units. In Mettur the storage was 102 million units against its capacity of 210 million units. This year's total hydel storage will be 2,000 million units. From October to December the power position is comfortable in the State. From January to June there is a deficit, with falling supply and rising demand from agriculture, domestic use etc. Another feature of the State power system is that while its installed capacity is 2,254 MW, its effective capacity is less than 50 per cent of it, that is 1,200 MW. The drying up of hydel sources after December has been noted. Neyveli with 600 MW of installed capacity, can be relied on only for 200 MW because of lignite shortage. And then there are the maintenance problems of the thermal stations and the transmissions losses referred to in Vol III pp 313 and 314. The planning of the State's power programme must take all these factors into account to ensure an even power supply throughout the year. First the thermal generations must be stepped up, which means completing the Tuticorin power project on time for which a further Rs. 10 crores (in addition to the allocated Rs. 9 crores) have been requested. It also means completing the Neyveli expansion programme (see last issue p 475), and deciding now on the second mine cut (see Vol II No. 12 p 5 and Vol V p 295). Second it means proper maintenance of our thermal stations,

The surplus power situation in August is being used to undertake maintenance work at the 3 units at Ennore. The boiler of the fifth unit has been lighted and its control panel instruments awaited in order to start generation in October. So by January Ennore should give 8 million units a day and Neyveli another 8 million units to meet the difficult January-July deficit period. Third transmission losses must be reduced as repeatedly emphasised in the Bulletin. Fourth a small reduction in power supply should be introduced in December and maintained at that low level upto June. Finally arrangements should be made with Kerala to purchase power during the deficit season. In August in view of the State's surplus power position, an agreement to supply 6 million units to Andhra Pradesh was made for August and September. Sri Lanka has an excess of 150 MW and discussions are under way for arrangements via submarine cables to feed the State's and other Southern power starved industries especially during the summer months.

For the country as a whole the power situation in August was good. With the good South West monsoon under which all States except Assam and Meghalaya received excess or normal rains, total power generation was 2,400 million units a day against a total demand of 2,600 million units. Kerala reported that all its hydel reservoirs were overful and that the commercial generation of power from the Rs. 112 crore Idikki project will start in December, when the first sets will be commissioned. The Southern region is thus well placed with 55.33 GWH per day in August against 48.88 GWH and 43.53 GWH in July and June. The Western region's power has increased from 50.55 GWH in June and 53.55 GWH in July to 54.25 GWH per day in August. The Northern region has shown a small improvement from 50.09 GWH in July to 50.85 GWH in August. It is the North Eastern region where the power position is unsatisfactory. Against a demand for 172 MW, its firm capacity is 147 MW and what is more serious is that its new industrial and agricultural developments call for 640 MW by the end of the Fifth Plan and current State and Union projects when completed will add only 241 MW leaving it 78 MW short. There is need to complete soon its 3 regional projects and explore fully its gas fields for power generation. For the country, a tripartite meeting of Electricity Boards Chairmen, workers representatives and the Union ministers of Energy and labour have drawn up a 10 point guide line to optimise the efficiency of the power systems, to avoid thefts and transmission losses, ensure proper maintenance and stock piling of spare parts, improve the functioning of Electricity Boards and station maintenance and upgrade the skill of workers. If even half of these guide lines are implemented they will lead to a substantial improvement in the power situations. The Union ministry of Energy has also called for a smooth and phased power cut throughout the year rather than a heavy one in the summer months, as suggested earlier. Load staggering, using thermal stations to save hydel reservoirs, the stepping up of the allocations for power beyond the Rs. 1,101.58 crores for this year, reducing the delay in commissioning projects, distance protection of high voltage transmission lines with improved performance of measuring accuracy and operating speed, the Union subsidising of State Electricity Boards to the tune of Rs. 150 crores to compensate them for additional costs they have to meet for higher prices decided for aluminium conductors and cables, the sympathetic consideration of projects like the Second Neyveli Mine cut, the Andhra

Pradesh plan for adding 1,150 MW to its Fifth Plan capacity through the super thermal stations at Neyveli in Tamil Nadu and Ramagundam - Kothagudam coal units and the further development of the 1,400 MW diesel generating sets of DLW at Varanasi - are some of the further prospects that are being explored to meet our power demands in the immediate years ahead.

Urban land tax and stamp duty: Under a July 30 ordinance, the Urban land tax in the State, that is Madras, Madurai, Coimbatore, Tiruchi and Salem has been restructured, dividing the urban land into residential and non-residential, and increasing the rates from 0.7 per cent of the market value of land above 2 grounds to 3 per cent in the case of residential and 0.5 per cent for lands upto 2 grounds to 6 per cent for those above 20 grounds. In the case of Madras the levy has been extended to the suburbs (16 kms) and will for all the 5 cities operate from July 1. The purpose is to raise additional resources and use them for slum clearance work. It is estimated that this restructuration will bring Rs. 2 crores in addition to the existing Rs. 1.6 crores. Similarly by another ordinance on November 2, higher rates of stamp duty have been imposed on sale of property in the five cities referred to earlier, compared to such sales in other areas. This ordinance also brings the duties in the Tamil Nadu cities in line with those in other Southern States.

Working of patta grants: Since 1947, 9.88 lakh acres of land for cultivation have been assigned for the benefit of 4.75 lakh persons in the State and 5-6 lakh persons have been granted house pattas, according to the government. It is concerned with the lack of follow up on this important programme and has asked the District Collectors to ensure that the village records reflect these grants of pattas and in their absence the beneficiaries are not subjected to harassment.

Transport: According to a 15 year plan drawn up by the Southern Railway passenger traffic will increase from 146 millions to 167 millions, suburban passengers from 104 millions to 300 millions and freight traffic from 14.3 million tonnes to 34 million tonnes, including a 36 per cent rise in what is described as the core sector traffic, the Hospet iron ore. Among the projects in the plan are quadrupling the rail track and electrifying it between Madras and Trivellore and Madras and Ennore. In early August the Air Route Surveillance Radar with a coverage of 320 kms was commissioned at Porur, 5 kms from Meenambakkam; it improves air traffic regulation and passenger safety. When the Precision Approach Radar is installed as has been done at Calcutta, the Madras airport will have the sophisticated equipment to make it one of the focal points for development traffic in the country.

Pollution control: The State government has under preparation legislation to control water, air and land pollution under the title, the Tamil Nadu Environmental Pollution Control Bill. The Bill proposes the creation of a Board to execute environmental control measures in the State, going beyond the Union government's Water (Prevention and Control of Prevention) Act of 1974 which deals only with water pollution. All the major rivers in the State—the Cauvery, Tambaraparani, Bhavani, Amaravathi, Vaigai, Vellar, Coonoor, Adyar, Cooum are being polluted by the discharge of untreated liquid industrial effluents and municipal sewage, polluting surface water, destroying fish and affecting the municipal drinking water system,

Industrial smoke and discharge as well as automobile gases are polluting the land and air and control measures which will help and not hinder industrial development while stopping pollution are urgently needed.

MMDA. The Madras Metropolitan Development Authority is now engaged in implementing the 1975 - 1991 Rs. 400 crores Metropolitan Development Plan (see Vol III pp 90 and 91) covering the metropolitan area of 1,167 sq. km. including 127 sq. km. covering the city. The proposal to extend the Central Station upto the Moore Market is under study. During the Fourth Plan Rs. 110 crores were invested and a World Bank study indicated that for the Fifth Plan the investment in MMDA will have to be more than doubled at Rs. 280 crores plus investments in industries, power, education and port development. In addition the plan has now been released for study and support of the public which will have to provide the resources for its execution. Land development in the Plan should be financed by loans, medical and educational facilities by grants, octroi, turnover tax, tax on commodities, fuel and power and transfer of property as well as a cess on properties being the means of mobilising resources for executing in plan. The World Bank is interested in financing the water supply and drainage sectors and UNDP in preinvestment studies. The Union authorities have approved in principle the Mass Rapid Transit System. The techno - economic feasibility study on it has been examined by the Railways which has expressed preference for the alignment from Tiruvottiyur to Tiruvanmiyur via George Town, Triplicane, Mylapore, and San Thome. This perhaps is not a high priority for the Fifth Plan.

Housing: The housing programme for the low income group is being expanded. The Tamil Nadu Housing Board has raised Rs. 1.1 crore through debentures, Rs. 1.32 crore through non - guaranteed debentures from Banks, and setting up a trust to float public loans. It has also instructed allottees of houses to pay 4 months, instead of 2 months advance rent and simplified its administration. On the building side it is pushing ahead with low cost designs and mass prefabrication designs, starting with 144 pre-fab flats in Beasant Nagar. Besides saving on cement and steel by using fly ash from Ennore and Basin Bridge to the extent of 20 per cent, it is using calcrete (cellular concrete) produced by its plant (see Vol I No. 7 p 10 and Vol IV p 480) for walls, floors, and roofs.

National :

Fifth Plan: Further to the Fifth Plan finalisation under way and the Second Annual Plan and preparations for the Third Annual Plan referred to in the last issue (pp 455 - 456), the DGTD has helped develop a short - term perspective plan for each industry, aiming at a 10 per cent increase for the sector under its control. This means on the one hand providing them with required raw-materials, inputs, power, ensuring use of unused capacity, materials and energy conservation both in the consumption of fuel oil and in switchover to coal energy and reviewing periodically their performance in relation to the targets, materials consumption, modernisation, import substitution, export generation, market acceptance, standardisation and quality control. This kind of micro plan is needed for the Fifth Plan in both the public and private sector industries.

State of the economy: The official economic review placed before the Lok Sabha at July end, the World Bank study on the economy published in early August and the NCAER study on rural household incomes released at the same time provide a useful base to review the economy at this point of time. The World Bank study showing that GDP growth between 1970-74 was 1.3 per cent is a useful reminder when examining the forecast of the official review for a rapid economic expansion which for this year 1975-76 is placed at 5 to 6 per cent. The base for this forecast is the expected good performance of food grains production of 114 million tonnes, of which, with the good monsoons. kharif output is expected to be 69 million tonnes. This is also reflected in the price decline being mainly in agricultural products, food grains, oil seeds, sugar, pulses. This trend should be strengthened by the price reduction in fertilisers referred to in the last issue p 458 Equally this bright picture must be tempered by the poor procurement record. The review admits that out of the bumper rabi harvest, as of July end only 3.5 million tonnes were procured, instead of the 5.5 million tonnes target. The food stock with the government at July end was 4.8 million tonnes and it is good that the government is planning to build a buffer stock of 12 million tonnes. The review points out that the six month January - June 1975 offtake from the public distribution system was 56.85 lakh tonnes compared to 52.16 lakh tonnes in January - June 1974. This means that the 12 million tonnes buffer will be adequate for the public distribution system for one year. But the buffer seems to be a building through imports, which the review states amounted to 5.5 million tonnes in 1974-75. This is no way to build the buffer stock, as it is a heavy drain on our slender foreign exchange resources. There is need to examine why for 4 years running the procurement targets have not been realised. Is it that the procurement price paid to the farmer is unattractive, is the method of procurement the bottleneck, should the government agency replace the wholesaler, is the estimate of the output wrong or is the productivity of agriculture falling? These possibilities should be frankly examined and measures taken in terms of pricing, credit, procurement machinery and imports in light of such a review. The NCAER review throws some light on the issue. It points out that unlike the immediate effect of the "Green Revolution" which worsened rural inequalities the new technology plus the development schemes of SFDA, MFAL and crash rural employment schemes have reduced the number of rural poor (using Rs. 40 per mensem as the critical poverty line) from 74.6 per cent (307.7 millions) in 1968-69 to 72.4 per cent (305.3 millions) in 1969-70 and 68.5 per cedt (295.7 millions) in 1970-71. The average cultivating household income rose by 19.5 per cent (compared to the 6 per cent rise for non-cultivators), with 32.5 per cent rise for HYV users and 18.1 per cent for traditional users, though with dairy and other incomes the traditional ones gained more (20.3 per cent) compared to HYV users (17.9 per cent). Similar improvements have taken place according to the study in the share of income of high and low income households. Here is an area calling for further investigation as to the effect of the levels of rural living on the marketable and marketed surplus of food grains. The official review also makes a positive assessment of industrial revival from one per cent in 1973-74 and 3 per cent last year to 5.5 to 6 per cent achieved in the first quarter of 1975-76. This is supported by the reported improvement in the in the investment climate—Rs. 25.7 crores

capital issues being sanctioned in April-June 1975 compared to Rs. 12.9 crores in April-June 1974 and the increase in capital issues by existing companies from Rs. 9.8 crores in the first quarter or 1974-75 to Rs. 9.8 crores in April-June 1975. This trend is supported by the Department of company affairs study which reports that the registration of 3,777 new companies with total authorised capital of Rs. 1,021.70 crores in 1973-74 was a record. Further to revive investment in high cost projects, that is for those calling for an investment of more than Rs. 50 crores, the debt equity ratio has been raised from 2:1 to 4:1 and the promoted share reduced from 15 to 10 per cent. The impact of decline in agricultural prices on industry has been counter balanced by the rise in the price of coal, steel, aluminium and energy which are estimated to add Rs. 1,000 crores industrial costs and to this extent the increase in the debt equity ratio is justified. But it goes against the principle of financing expansion and development from internal resources and should be watched so that it is not used to increase dividends. The economic review refers to the buoyancy in tax receipts up by 9.5 per cent income and corporate tax in the first quarter. The export import picture however is sombre. Here the World Bank study reminds us that though our external trade is quantitatively insignificant, being 4 to 5 per cent of GDP, it is critical, as we rely for 2/3 of our oil, ½ of our fertilisers and 10 per cent of food grains on imports. The major conclusion of the Bank study and the official review is right—a call to sharpen and enlarge our exports, generate the needed investment resources and jack up our unused capacity for expanding exports. The other conclusion for more foreign aid is strictly a short-term panacea and is not the path way to self-sustaining growth.

Prices and anti-inflation : Wholesale prices continued their stability and marginal decline in July. The official index declined by 0.1 per cent for the week ending August 2 at 308.3 as against 308.7 in the previous week. The official economic review referred to earlier calls attention to the rate of inflation being 31.9 per cent in September 1974 declining to 7.9 per cent in March 1975, with a rise from 321 to 327 in April and May 1975 as noted in Vol V pp 336 and 394. Over the year, prices of food articles declined marginally by 1,53 per cent, manufactures by 0.5 per cent, industrial raw materials by 20.7 per cent, while machinery and transport equipment rose by 12.08 per cent, food and power. by 10.86 per cent and chemicals by 14.85 per cent. Apart from the regulatory measures to control and immobilise black money, smuggling, hoarding and nullifying tax evasion which continued with intensity in July and August, money supply has been allowed to grow at a slower rate and bank credit expansion controlled. For the year ending July 18, 1975, money supply increased at Rs. 661 crores or 5.8 per cent, compared to the previous year's increase of Rs. 1,585 crores or 16 per cent. For this year March 28 to July 18, the increase was Rs. 625 crores or 5.4 per cent due mainly to a decline in net foreign exchange assets (Rs. 56 crores), in bank credit to the commercial sector (Rs. 13 crores) and government's liability to the public (Rs. 2 crores). In addition the government's packaged commodities order issued on August 21 instructing manufacturers and retailers to display fair selling prices, identity of the commodity, its weight or measure which regularises from October 2 the current directive—covering all packaged commodities sold retail, ranging from food grains to soaps and cement, together with the Bill to ensure fair trade practices now being prepared under which the loss to consumers of Rs. 2,000 crores per

annum from underweighment and adulteration is to be penalised and stopped - all these have acted as anti - inflationary measures. The Department of Civil Supplies and Co-operation also allocated Rs. 4.55 crores for payment of margin money to co-operatives to help them in accelerating the distribution of controlled cloth and other essential goods. The Bureau of Public Enterprises further has under study areas of consumer industries which the public sector can take up through expansion of the six public sector industries now producing mass consumption goods, adding a consumer goods production section to units producing basic or intermediate goods or starting new consumer goods public sector units. The national permit transport scheme by promoting speedier goods transport across States boundaries to be carried by over 5,200 vehicles, each paying a small composite fee of Rs. 700 would increase the velocity of circulation of consumer goods and keep down prices. In early August, Brook Bond and Liptons reduce tea prices by 40 paise per kg. and other cigarettes, biscuits, and soft drink manufacturers were also considering similar declines. STC on August 26 reduced the price of imported palm oil by Rs. 300 per tonne and vanaspathi manufacturers immediately cut their prices by Rs. 300. One of the most important decisions on the anti-inflation front was the agreement at August end between the Union government and its employees on the DA arrears, and its future, under which the five instalments of DA arrears due between September 1974 to May of this year when the index crossed 272 and 312 points respectively will be (a) impounded upto 50 per cent in compulsory deposits under the Additional Emoluments Act of 1974 and (b) the other 50 per cent credited to the Provident Fund not to be withdrawn till March 1977 when it will be merged with the regular Provident Fund. (c) 50 per cent will be paid in cash for the period commencing September 1. This means that of the Rs. 285 crores due in a full year on the five instalments, Rs. 143 crores will be impounded in compulsory deposits, Rs. 84 crores in the Special Provident Fund, and the cash outgo from September till March 1976 will be Rs. 58 crores. This is a good anti-inflationary accord which also meets the claims of the employees. On this anti-inflation effort, there is one major unresolved issue and that is the absence of impact of the arresting of the rate be inflation and price declines—all seen and measured in wholesale price index terms, on retail prices. In fact the Consumer Council of India reports on August 20 after a month's survey, that retail prices fell briefly immediately after the Emergency, but have risen 5 to 15 per cent over the 8 weeks of the Emergency. What is incontestable, as admitted by the official economic review, is that the wholesale prices decline is not yet reflected in retail prices. For this there are several good and bad reasons. Retail market prices are stickier than wholesale prices because the retailer's overhead-premises, heating, lighting, advertisement and wages, is a much larger percentage of his turnover than that of the wholesaler, so that when prices decline, it is not reflected in retail prices wholly or even in part. But there are other reasons not so valid—such as the carry over of old stocks bought at old higher prices (there is stock piling of inventories which is a form of hoarding), trade etiquette which allows retail prices to go up but never to come down, cutting retail prices apparently but accompanied by under weighing and adulteration etc. What is needed to make retail prices more responsive to falling wholesale prices is (a) to push forward with the measure to display prices and for manufacturers and wholesalers also to retail their goods and (b) reduce the complex and cumbersome bureaucratic machinery, particularly the licensing pro-

cedure, to increase the velocity of consumers goods circulation. Of course the major solvent is increase in the supply of the consumers goods.

Rural Banks: The third decennial All India debt and investment survey by the RBI in 1971-72 showed rural households assets to be Rs. 88,409 crores and liabilities Rs. 3,921 crores, being Rs. 612 among cultivators and Rs. 219 among non-cultivators. The proportion of rural households reporting liabilities varied from 7 per cent in Meghalaya to 57 per cent in Rajasthan. In Tamil Nadu the outstanding liabilities as a proporation of total assets was the highest at 10 per cent. An inter-ministerial group recommended in early August setting up Rural Banks in areas where co-operative and commercial banks were weak or absent in order to provide a flexible rural orientation in staff structure and problems to such credit institutions. At a meeting of Chief Ministers later in the month, the Finance minister stated that an accelerated programme of agrarian reforms, enforced land ceilings, distribution of surplus lands, conferment of ownership rights on share croppers and tenants, and provision of infrastructure and inputs to cultivators were the pre-requisite for the new Rural Banks which will replace the high cost establishment of commercial banks, supplement the co-operative credit societies which had not reached all strata of the rural society and replace the money lender. For this, Farmers Service Societies as a tie up between rural banks and multi-purpose, co-operative societies need to be pushed forward to reach the small and marginal farmers. The rural banks will aim at eliminating the money lender and will give production credit as a priority as well as consumption loans. It is proposed that the banks deal with the poorer sections of the rural clientele, arranges for the entire property of the borrower to be mortgaged to the bank, and in return meet all his credit needs. 5 regional rural banks are to be started in a compact region of 1 to 5 districts with homogeneity in agro-climatic conditions, rural clientele and a commonality of problems. The head office is to be in a district town with branches in blocks covering 1-3 blocks, financing 5-10 Farmers Service Societies. The branch will have a small 3 man staff and maintain close contact with the borrowers. This is another institution to feed the small and marginal farmers and while States like Tamil Nadu are right io extending and intensifying the existing credit structure of co-operatives and nationalised banks, there are parts of the country where this new structure will fill a gap. The offer of consumption loans should be regulated by a campaign to wean the small farmer away from the occasions which give rise to these loans.

National Production Front:

Public and other sectors performance: The production of the public sector units in July Increased by Rs. 16 crores to Rs. 60 crores against the month's target of Rs. 61 crores. For the first four months April-July, the total production was Rs. 171 crores, being 32 per cent more than that of last year's four months. Paper production was Increased considerably and supplied at a concessional rate of Rs. 2,750 per tonne for government and educational purposes. Aluminium production has increased to 50,204 tonnes in this period (last year 36,608 tonnes) that it is likely to dispense with imports this year. BHEL surpassed its target of Rs. 34.48 crores to Rs. 38.32 crores in July, as did Jessops (132 per cent) Braithwaites (114 per cent), Richardson and Cruddas (115 per cent) and Triveni

Structurals (104 per cent). RBI's decision to follow the Tandon Committee report on credit for inventory and receivables, style and information with particular reference to 15 major industries will help to further improve their performance. This will also help them to realise the decision to increase their production targets by 10 per cent from Rs. 725 crores to Rs. 800 crores. The government at the end of August liberalised industrial licensing, permitting 15 selected engineering industries with export potential to increase their capacity by 25 per cent every year automatically (which means upto 31.25 per cent as they are allowed a 25 per cent excess over licensed capacity any way) and grant as a matter of course expanding capacity by units based on their own R and D. In addition a 21 member national apex body for the private sector has been formed and at its first meeting made decisions to promote industrial peace and increase production. Another 8 man committee has proposed a series of measures to promote small industries in our highly stratified and caste ridden society, where such small scale industries are not simply a social welfare measure but part of the imperative of industrialisation and of the creation of an industrial culture. This sector, which accounts for 38 per cent of industrial production employs 42 per cent of industrial labour and has 92 per cent of registered factories in the country, should be headed by a Director with an adequate staff, and should follow a policy of ensuring that people of different social strata are trained as entreprenures through proper selection and provided financial assistance and consultancy services and technical and administrative support so that the objectives of diversification of production, diffusion of ownership and geographical dispersal of industrial activity are speedily and effectively attained.

Steel: July saw a continued improvement in steel production in the country. IISCO's production of pig iron, ingots and saleable steel increased by an average of 10 per cent over the previous month. Bhilai's July production was 102 per cent of its target. Durgapur broke even for the first time and Bokaro's second blast furnace coke oven is being commissioned in September. Also in August the wage agreement reached with the 2.25 lakh steel workers and the industrial peace and emphasis on participative management makes certain the attainment of the 16 per cent increase in production that is this year's aim. SAIL's plan is to earn a net of Rs. 20 crores from steel production exports, Rs. 100 crores from exports of pig iron and steel products against Rs. 80 crores import of scarce sophisticated steel items. This would be a marked change from the past. Last year's exports were Rs. 23.4 crores and imports from April to September alone amounted to Rs. 166.11 crores. As of August firm export contracts for 4.3 lakh tonnes worth Rs. 74 crores were secured on the basis of a 13.7 per cent (1.97 lakh tonnes) increase in saleable steel production for the months April to July. Negotiations also are under way with the Soviet Union to expand Bhilai from 2.5 million tonnes to 4 million tonnes through on the spot visit and plans at Bhilai. The civil engineering works, the installation of the sixth blast furnace, and progress on finalising agreement in the continuous casting plant are progressing satisfactorily, the ninth open hearth furnace which has begun already paying handsome dividends. The industry faces two problems. First is the gap between ingot steel capacity and saleable steel production which in Bhilai is 25 lakh tonnes (for ingots) and 19.65 lakh tonnes (for saleable), for Durgapur 16 lakh tonnes and 12.30 lakh tonnes and for

Rourkela 18 lakh tonnes and 12.25 lakh tonnes. And so arrangements should be made to increase saleable steel production and for this labour productivity, management and the technology mix should be reviewed and improved. In the process the quality of steel produced should be improved and the proportion of defectives and untested steel brought down. The second problem is the glut of steel in the Hindustan stock yards reported in August which could frustrate the new distribution system (see Vol V p 144). As against a normal 1.7 lakh tonnes stock, the pile up at mid August was 3 lakh tonnes. To what extent this over stocking is due to the start and/or defects of the new distribution net work, to what extent to the income tax officials raids reducing black money demand, to what extent it is a form of price resistance and to what extent it is a reflection of the slow down in the construction industry needs immediate study. Along with remedial action on the home front, steel exports can be increased within the limits of a declining international market, as seen in reduction of British and Japanese steel production.

Crude: August saw plans to intensify domestic crude oil production and efforts to economise on its use. Towards the end of August drilling operations were resumed in Bombay High, with the newly arrived Norwegian offshore drilling vessel, Haakon Magnus, a self propelled semi - submersible drilling rig, for the sixth well. A U. K. rig, Dal Mahoy, is also to start drilling by August end. With Haakan Magnus which is not handicapped like sagar Samrat which is inoperative when the mud is more than 20 feet thick and in the monsoons, oil exploration can continue through the year without interruption by the monsoons. ONGC's Anweshak has started its offshore survey of the Tamil Nadu coast from Pondicherry to Palk Straits. Also the first test well in Bakultala in West Bengal will be spudded in September. ONGC has also spudded its first test well in Iraq, in the 4,200 sq. km. allocated to it in Basrah desert area for oil exploration. Also the Assam axploration is proceeding apace with expansion of its 2 refineries. On the other hand ONGC has abandoned all drilling operations in Kashmir as the Suthsukulan drilling up to 1,337 metres drew a complete blank. There is some interesting prognosis about the future status of the country with regard to crude imports. On the one hand, the Union minister of Petroleum and Chemicals referring to the plan to meet 40 per cent of the country's crude needs (instead of 33½ per cent as at present) by the end of this year and 55 per cent by the end of next year, from domestic production, forecasts that the country will become self-sufficient in oil by the end of 5 years, This is also the forecast of IOC, which is of the view that even with the commercial production of Bombay High, the country will be dependent on imports till 1980. To some extent these forecasts also depend on the rate at which the demand for crude which has increased from 3.3 million tonnes in 1950 to 23 million tonnes in 1973 will increase in the future. At present the gap between the demand and domestic production of 14 million tonnes is being imported. In this regard IOC studies show considerable economies are possible in the country's consumption of 4 million tonnes of fuel oil and 7 million tonnes of HSD. A study of diesel conservation by IOC of the Pallavan and other State Transport Corporations in Southern Region shows that a saving of Rs. 4.83 crores in diesel and Rs. 9.2 lakhs in lube oil consumption is possible in these

organisations. At present the KM per litre (KMPL) varies from 2.4 to 4. As 5 KMPL is possible under ideal conditions, improved driving habits and incentives for saving on diesel consumption can effect this saving. Just as through fiscal measures, a 30 per cent saving on petrol consumption has been effected, even a 5 per cent saving in diesel consumption will save the country Rs. 20 crores. Again out of a total annual consumption of 11.50 lakh tonnes of furnace oil by 309 industrial units, 2 lakh tonnes can be saved by the industries, another IOC survey reveals. Minimising use of fuel oil to a considerable extent is possible in tea, textiles, engineering, chemicals, process, cement, ceramics and glass industries in that order. The highest saving is being effected in Kerala followed by Tamil Nadu. What is heartening is that 85 per cent of the managements covered by the survey considered the recommendations on economising acceptable and feasible and 52 per cent are beginning to act on them. 17 per cent of the 304 units have implemented the recommendations on economising on fuel oil. A special 8 engineers cell has been set up in IOC Bombay, Calcutta, Madras and Delhi to help the industrial units implement the fuel efficiency team recommendations. In addition the National Productivity Council is bringing out a detailed manual on case studies and suggestions for efficient usage of furnace oil in industry, with guidelines for maintenance of boilers, burners etc. On the use of kerosene, the poor man's fuel, the consumption for 1975 is expected to be 30 lakh tonnes, of which 6 lakh tonnes will be imported from the Soviet Union. The present allocation of 13.13 lakh tonnes for the period January-May is generous and here too some economy is possible by not allowing waste and misuse. These energy conservation measures are essential as the country had in August to make its second drawal of SDR 201.34 million from IMF's oil facility. Last year it drew 200 million SDRs. The interest rate is a high 7½ per cent and the borrowing conditions onerous. If there is economy by industry in use of fuel oil and by transport companies in use of HSD, and by the end of 1976, 14-16 wells in Bombay High produce 1.5 to 2 million tonnes of crude, the situation will be less gloomy.

Coal: Coal production and loading increased in July and August. In April-July 5,590 wagons were loaded per day and by mid August it exceeded, 6,000 wagons per day. Indian ship owners have decided to transport 10 lakh tonnes of coal among their 25 company ships, the two public sector companies carrying about half of the total. With the workers offering their full support to augment coal production, the year's target of 98 million tonnes should be achieved. Already the needs of the priority consumers, power houses, cement plants and slack coal consumers are being fully met, and with their good stock position, their intake is being reduced. July also saw an increase in steam coal supply to industrial consumers, where there has been some shortfall around Ahmedabad, Kanpur and Amritsar. This is a different picture from that drawn by the Audit report placed before the Rajya Sabha for earlier years, where the Coal Board's shortfall ranged from 49 to 86 per cent till 1968-69 and from an even higher 50 to 89 per cent till 1971 - 72. The lessons from this experience include the need to maintain adequate dredging facilities and the needed spares plus industrial peace.

Cement, textile and Drugs: Cement production in June was a record of 13.25 lakh tonnes representing 78 per cent of capacity use, and in July 14 lakh tonnes. For the year cement production will be 16 million tonnes and may be even higher, as it can with adequate coal supplies produce upto 95 per cent of capacity. In the first six months of this year, they received 21 lakh tonnes of coal against their quota of 30 lakh tonnes. The Cement Corporation of India (CCI) comes in for strong criticism by the Public Accounts Committee, whose report to the Lok Sabha in July points to the continuous reduction of the Fourth Plan CCI capacity target from 5 million tonnes to 1.6 million tonnes and later to 1.2 million tonnes, with the actual capacity being created of 4 lakh tonnes due to poor planning, frequent changes in policy and sloppy execution. On the textiles front, the government announced an increase in the range of controlled cloth from five varieties—dhoties, sarees, long cloth, shirting and drill to seven poplin shirting and coating being added, in addition to the increase in the quantum reported in the last issue p 461. Also, as will be noted later, the handloom sector is to be given a greater share in production of dhoties and sarees, whose output has been increased from 100 million sq. metres last year to 160 million sq. metres this year. The government has invited private sector and foreign firms to take up production of essential drugs requiring high investment and sophisticated technology under the Union government policy of meeting the health needs of the country, without entering areas of high profitability. IDPL will be setting up a unit in Bihar and expand the Rishikesh plant.

Fertilisers, irrigation and land reforms: In early August, 8 fertiliser public, private and co-operative companies reduced their prices by Rs. 61 to Rs. 200 per tonne for complex and phosphatic fertilisers, parallel to the government reduction of imported nitrogenous fertiliser prices reported in the last issue p 463. This will help the farmer increase his production. Also as noted in the last issue, the government is saving Rs. 100 crores this year (equivalent to 1.5 million tonnes) through lower prices negotiated with suppliers in US, West Germany, Japan, East Europe, Kuwait and Abu Dhabi. A further saving is expected as international prices are continuing to fall, with the withdrawal of China's 7.5 lakh tonnes demand from the international market. The giant Ramagundam fertiliser plant like the Talcher plant represents a break through in fertiliser production because of its use of coal from the neighbouring mine as its feed stock. It will be using the latest technology in gassification with 3 gassifiers of 300 tonnes each—which is the only one of its kind in the world. On the irrigation side, the Union government is planning to increase the allocation over the Rs. 536.64 crores provided in the Second Annual Plan (see last issue p 463), by a sum of Rs. 100 crores for both irrigation and power—which could also be the start of a reflationary measure for the economy.

Agricultural Production: According to the Union government, the rabi crop this year is estimated at 44 million tonnes, the rabi procurement as at the end of August was 3.9 million tonnes (75 per cent of the 5.5 million target and up from 3.5 million tonnes at July end as noted earlier) and the kharif output is placed at 65 to 66 million tonnes. On the basis of kharif forming 60 to 64 per cent of total food grains output, the target for the year has been placed at 114 million tonnes. As also noted earlier, to build towards a

12 million tonnes food grains stock, the government is starting with a 4 million tonnes base this year. It expects to procure 4.5 million tonnes of the kharif crop including that from the bumper jowar and bajra crops in Rajasthan, Maharashtra, Gujarat and MP. In August, kharif operations with plentiful rains got off to a good start, with adequate seeds, both HYV and traditional, fertilizers and power. The wide range of rice productivity from 792 kg. per hectare in MP to 2,298 kg. per hectare in Punjab, with Haryana, UP and Tamil Nadu being on the high side and Assam, Bihar, Orissa, Bengal and MP being on low side is traced in part to the late sowing of the rice crop. To counter this, Rs. 18 lakhs have been allocated to the low yield States for raising community nurseries on farms with assured irrigation, as a means of early supply of seedlings to farmers. Also a target of 36 lakh tonnes of fertiliser consumption has been fixed for this year (against 26 lakh tonnes consumed last year), through increased domestic production and controlled imports. To deal with pests particularly in endemic areas, the government has set up 12 pest surveillance centres, and information on pest build up is being collected and used to warn farmers. These measures together with a detailed calender of operations for each crop developed by the Union ministry and the State governments should result in an increased kharif output towards the targets for this year of 114 million tonnes food grains, 10 million tonnes oil seeds, 114 million tonnes of sugar cane, 6.80 million tonnes of cotton and 6.70 million tonnes of jute and mesta. The two negative elements in the picture are the extensive flood damage to the kharif crops (and more seriously to human lives) in Bihar, parts of Assam, Bengal and Orissa during August and the poor demand for fertiliser for the present kharif season, with the FCI holding 1.14 lakh tonnes valued at Rs. 18 crores, compared to last year's fertiliser stock of 60,000 to 70,000 tonnes. These two factors are demanding government attention. The Central Rice Research Institute has also suggested that for the 66 per cent of the 37.4 million hectares where rice is grown and which have no assured irrigation, the wooden plough, slow plodding, single furrow and superficially ploughing, should be replaced by the iron plough, along with other bullock drawn but improved implements like puddlers, disc harrows, and comb harrows in order to increase the rice yield per hectare. The union ministry to counter the stagnating optimum level of wheat production, is extending it to new areas in Bihar, Karnataka, Orissa, Assam and West Bengal, where wheat production has started picking up. In this context, the RBI study on small farmers surveyed in 6 villages in each of 12 selected districts spread over 12 States including Tamil Nadu is a mine of information. The small farmers defined as those with gross farm income below Rs. 3,000 in 1967-68 are a major element in our total agricultural production, though with little marketed or marketable surplus. Their participation is essential in all schemes to raise food production, they need assured irrigation based on technical and economic feasibilities, and not mere pumping in of credit. Tenancy reform and rural debt relief are essential pre-requisites for this purpose as well as the development of institutional credit facilities, the survey concludes.

Exports: The trade gap for the first quarter, April-June 1975-76, was Rs. 197.20 crores, against a deficit of Rs. 330.82 crores for last year's first quarter, this quarter's exports being Rs. 784.94 crores (Rs. 643.19 crores last year) and imports Rs. 982.14 crores (Rs. 974 crores last year). For June, the deficit was Rs.

92.05 crores which was higher than June 1974 deficit of Rs. 88.50 crores. This years's export target has been revised to Rs. 3,800 crores and various measures have been taken to stimulate exports. (a) Engineering goods exporters who have imported raw materials under the import replenishment scheme can claim and obtain directly their drawbacks or import duties from banks: (b) a central co-ordinative agency in the commerce ministry is organising consortiums to participate in construction programmes in the Persian Gulf area: (c) the 25 per cent value added scheme for engineering exports for steel based exports is to be further liberalised to help withstand the fall in international prices and the waiving of import duty on import of materials and components under the advanced license scheme: (d) licenses for 190 export items have been dispensed with and export control procedures have been considerably simplified: (e) the automatic approval to a unit beyond its authorised capacity, if the excess is earmarked for exports has been earlier referred to: (f) for exports of capital and turn key projects, the rate of cash assistance is to be protected till the completion of the contract: (g) within the resources available, exporters are to be provided with all needed inputs, including raw materials, power and export finance: (h) the approval of deferred payments procedures has been simplified and IDBI made the focal point for it: (i) in this connection, the government has under consideration 3 alternative proposals for an export-import bank, strengthening the present export wing of IDBI, or making it a separate subsidiary of IDBI, or the creation of a separate export-import bank. The present lacunae in the financing of capital goods exports which will increase from Rs. 90 crores in 1974-75 to Rs. 250 in 1978-79 will be closed by this arrangement: (j) other incentives include a levy on jute goods to promote R and D on cost reduction in the jute industry, the manufacture and export of ready made garments out of imported synthetic fabrics, running of export oriented pilot projects for 5,000 to 10,000 handlooms (to be referred to later), cash assistance to cotton extraction exports, export of tea bags and processed tea to Afghanistan, Libya and West Asia, processing and free trade zones at airports and increased participation in international trade fairs: and (k) various incentives for the opening of external accounts by non-resident Indians such as exemption of such accounts from Income tax if invested in UTI, subscribing to share capital of Indian companies upto 20 per cent of the shares, and persuading them to remit 5 per cent of their earnings abroad to India. These various measures to promote exports are timely because the OECD and IFC report in August warns that the terms of trade of the non-oil developing countries are becoming adverse with international demand for their exports and prices falling, and their exchange reserves being sharply reduced by $ 5 billion this year. A revised estimate by the Union commerce ministry for 1974-75 shows that exports were Rs. 3,304 crores and not Rs. 3,253 crores as announced earlier (see Vol V p 402), so that the trade gap was Rs. 1,045 crores and not Rs. 1,100 crores. The sharpest exports rise were in sugar (694 per cent), rice (161 per cent), iron and steel (108 per cent) engineering goods (75 per cent) cashew (59 per cent), tea (53 per cent) jute manufacturers (30 per cent), apparels (41 per cent), foot wear (51 per cent) and iron ore (21 per cent). In oil cakes, marine products, cotton, handloom goods and leather there were set backs. The regional breakdown of trade shows the largest expansion in Africa (131 per cent), with small increase in North America (11 per cent), UK (17 per cent), and EEC (13 per cent). But France

and West Germany showed considerable increase of 22 and 70 per cent respectively and a near doubling of exports to USSR. For the current year, the first trade liberalisation agreement promoted by ESCAP and signed by India and five other Asian countries—Pakistan, Bangla Desh, Nepal, Sri Lanka and Iran—will lead to preferential trading arrangements and increasing the volume of trade within the region. When the other 9 Asian countries who have been involved in the negotiations join the agreement, the expansion of inter Asian trade will be significant. In the first quarter of the year engineering goods exports registered a 103 per cent increase, from Rs. 40.95 crores in 1974 first quarter to Rs. 83.20 crores. The target for this year is Rs. 360 crores involving contracting of foreign orders of Rs. 25 to 30 crores per month. ECGC has also maintained a good growth rate during the first six months—January to June—of 30 per cent at Rs. 951 crores. The Union Finance Ministry states that the foreign exchange situation is good, with the Aid India consortium help placed at $ 1,775 million, the saving made possible by Bombay High, and the vigilance excercised in use and misuse of foreign exchange resources. Two problems facing the external trade situation are the extent to which big firms are operating in the coastal fishing areas instead of in deep sea fishing in our sea food trade on which an enquiry is being held and the rather sharp fall in our chemicals exports by Rs. 3 crores in the first quarter (Rs. 17.05 crores), due to the fall in world demand and prices and rise in raw materials prices. This area calls for special attention.

Aid: Foreign aid agreements during the first quater, April to June, were signed by India for $ 560.7 million (Rs. 448.50 crores) with IBRD, IDA, West Germany, Sweden and UK. Of this amount $ 84.9 million were project aid growth, $ 79.8 million non-project aid grants and $ 56.9 million non-project aid debt relief. In August India signed an agreement with IDA for a credit of $ 110 million (Rs. 88 crores) for the foreign exchange requirements of Indian Railways — being the 13th and highest credit received by the Railways. In the trade field, IFC reports that foreign investments are declining because of the increasing trend to nationalise foreign companies in the developing countries and the capital export countries are questioning the benefits of such investment, in face of their inflation, recession and high unemployment rates. What will emerge is a new international consensus on the conditions for foreign investment which will conserve its benefits—transfer of technology and repatriation of projects under mutually beneficial conditions.

International:

Bangla Desh: August witnessed the tragic death of the President Sheikh Mujibur Rahman and the many effects on the country and the economy of this sad event are yet to work themselves out. As against last year's poor performance of the economy, high inflation and the 58 per cent currency devaluation, the Planning Commission is aiming at a 10 per cent GNP growth this year, with 11 per cent rise in food production and 12 to 15 per cent increase in industrial production. These rather high targets are built into the 950 crores taka annual plan. Efforts are under way to tone up the jute trade which is the main foreign exchange earner. Oil exploration at a cost of 15 crores taka, including 4 crore taka is under way, with six foreign oil companies having completed the seismic survey of 48,000 sq. km. of the Bay and drilling continuing at 2 places in the Southern districts. 8 projects in the

coastal belt and South East hill tracts have been selected for exploration at a cost of 6 crore taka, along with new gas lines for Dacca and its industrial suburbs. India will be importing additional news print from Bangla Desh, which will also help in balancing the trade between the 2 countries.

Pakistan : In implementation of the June 30 agreement between India and Pakistan to control and survey the movements of agricultural insects, in early August the 2 countries adopted a joint strategy for monitoring and controlling the movement of locusts over the Rajasthan and Sindh deserts. Weekly reports of the locusts situation are being exchanged between the 2 countries. The talks on the Salal Dam project continued, with the 2 delegations meeting in Pakistan in August.

Sri Lanka : In August, India signed an agreement for a loan to Sri Lanka of Rs. 10 crores for the purchase of commercial vehicles.

World Monetary Reform: In August 3 events were recorded in the world monetary reform situation. Two devaluations occurred, a 15 per cent devaluation of the New Zealand dollar (being the second in a year) and a fourth and fifth devaluation of the Argentine Peso by 20 and 4 per cent. Second IMF announced that 18 countries have pledged $ 179 million to the subsidy fund to help cut interest payments by the developing countries who borrow from the fund's oil facility. This contribution enabled the fund to reduce the interest charged to the borrowing developing countries from 7.5 per cent to 4.5 per cent. The aim is to build the fund to the point where it can be reduced to 2.5 per cent. The U. S. is still holding to the position that the Fund should sell some of its gold stock and subsidise the fund and contribute to the oil facility, in regard to which it has made no contribution. Third the ECM finance ministers meeting in August agreed on their position for the IMF annual meeting in September with regard to regulation of gold transactions between central banks, part utilisation of IMF gold reserves, and redistribution of IMF shares among member nations, but could not reach agreement on the major question of floating vrs. fixed exchange rates. IMFs report of the 18 per cent increase in the value of 126 countries' reserve to SDR 178 billions in 1974 and a slower 9 per cent increase by SDR 4 billions in the first quarter of 1975 contains the comment that the floating of exchange rates in 1974 affected the adequacy of reserves by reducing their need compared to a regime of fixed exchanges, and provided a flexible adaptation of the supply of foreign exchange to the demand for it. Most of the 1974 and 1975 reserve increase accrued to the oil producers and the industrial countries. 20 transactions used SDR 826 million, mainly Australia, New Zealand, Italy and Israel. The developing countries purchased SDR 5.1 billion to meet their balance of payments deficits. These are some of the major issues that the world monetary reform programme must face. With the discussions and agreement on these issues by the non-aligned countries at Lima, the stage is set for the September meeting of IMF and IBRD where these issues will be discussed and hopefully resolved. The Indian government is studying the question of the link between the Rupee and a basket of currencies advocated in Vol V p 344.

New International Economic Order: The Commonwealth Plan for the new

International Economic Order was formulated at the officers level on August 25 at a meeting of 34 Commonwealth countries in Guyana for approval of the Finance ministers at the end of August. The Plan supports arrangements for setting up buffer stocks to protect food and raw materials markets, some form of indexed commodity prices to combat inflation and a restructuring of the world monetary system, with a larger voice for the developing countries in the IMF and IBRD. The report also proposes a Commonwealth Bank. The report was adopted in toto by the Council of Foreign Ministers. The new order programme comes appropriately at a time when the Hammarskioeld Foundation reports that in 1973 world armaments expenditure reached $ 244 billion (Rs. 1,95,200 crores), 70 per cent of it being spent by U.S., USSR, UK and France. This is half the combined GNP of the developing world estimated in 1972 at $ 509 billions and is 25 times the resources transferred to the third world. In the U.S., 4.8 per cent of oil, 7.5 per cent of iron, 8.8 per cent of tin, 11 per cent of zinc, 13.7 per cent of copper and 14 per cent of bauxite are used on armaments. The world whose GDP trebled in the last 25 years and whose population increased 2/3 has the resources to meet basic needs everywhere, if there is a change in the consumption life style of its affluent people, the report concludes. Its main theme is that the New International Economic Order must be based on redistribution of national and international resources to strengthen the Third World's capacity for self-reliant development. This will call for restructuring and strengthening the UN system, augmenting its resources through collecting a tax on sea bed property, establishing a link between SDRs and resources transfers and creation of a third world investment bank. It rather harshly describes the first 3 UNCTADs as " institutionalised mendicancy " and the world Bank's theme of distribution with growth as an "illusion of paternalistic partnership without tears". Third World Institutions should be at the centre of the order.

World Aid: Euro currency credits to the developing countries, which are not really aid, rose sharply to $ 3,340 million in April to June 1975 which was 178 per cent increase over the $ 1,202 million credits of the first 3 months. Indonesia, Mexico and Brazil received over half the credits. This activity in the somewhat slack Euro currency market was due to the inflow of OPEC funds. Like the IMF subsidised funds for reducing oil facility interest rates referred to earlier, the World Bank opened its third window (see Vol V p 277) on 1 July, with promised contributions from 9 countries amounting to $ 119 million which will enable the Bank to finance projects totalling $ 500 million to $ 1,000 million at interest rates between 4 and 5 per cent, the half way point between the 8.75 per cent interest rate of the Bank and 0.75 per cent service change by IDA. In its annual report, the Bank proposes a five year lending programme of $ 7,000 million for agricultural and rural development, which with the host country's contribution will mean an annual programme of $ 2,000 million. In line with its call for a strong commitment to rural development policies, the report refers to the small farmer being more efficient in resource use and his co-operation being essential to meet the increasing food target and proposes new approaches to remove the technical, organisational and other constraints to rural development, a massive attack against rural illiteracy and a reallocation of resources to meet the health needs of the rural poor.

World Economy and World Trade: The annual reports of the World Bank, IMF, the Colombo Plan and UNCTAD studies call attention to the rather sober international economic and trade situation. The bank study, assuming change in aid and trade policies of the rich countries, says that the poor countries can attain a 5 per cent growth in the second half of the decade, and an average 3 per cent for the seventies which is half the rate set forth for the second development decade. The Fund calls attention to the virulent Inflation which developed in the 1972-73 boom in the developed countries, followed by recession with still high rates of inflation and unemployment, so that in 1974 there was a drop in the imports of the developed countries and a continuing decline in 1975. The major oil exporters were able to increase their collective surplus to $ 70 billion in 1974 from $ 6 billion in 1973. The counterpart to this was the $ 51 billion combined deficit of oil importing countries, more than half of which were absorbed by the oil importing developing countries. It projects a decline in oil countries surplus from $ 70 billion in 1974 to $ 50 billion in 1975. In fact the IMF report estimates that the industrial countries deficit of SDR 5 billion in the last quarter of 1974 was turned into a surplus of SDR 0.6 billion in the first quarter of 1975. West Germany had a high surplus, France's increased, Italy's deficit disappeared and the UK, US deficits declined sharply. The developing countries deficit of SDR 1 billion in the last quarter of 1974 however continued. The UNCTAD report shows that the terms of trade for 28 commodities declined annually by 2.2 per cent between 1952-1972 and that the 1973-74 commodity prices boom was short lived. This is the background for the proposed international buffer stocks (see Vol V pp 212-213); Concern is also expressed at the slow progress of multi lateral trade agreements in GATT. The Colombo Plan annual report also calls attention to the difficult situation facing its member countries with the steep rises in food, fuel and fertilisers price, the growing burden of external debt and fall in export receipts consequent on the recessionary trends in the developed world. The action proposed in IMF, World Bank and Colombo Plan reports is a concerted effort to increase aid and trade. The World Bank appeals to the developed countries to raise their ODA to the pledged 0.7 per cent of their GNP which will bring in an additional $ 5 billion. Similar appeals are made to OPEC countries to enter the aid field vigorously. The Colombo Plan makes a similar appeal for a substantial increase in aid. The more lasting programme is in the trade field, and here all reports agree on the need for a radical change in the trade policies of the developed countries to arrest the deteriorating terms of trade for the developing countries. In turn this calls for an intensified effort at increased production and attacking rural poverty in the developing countries, and an effort to combat recession in the developed world, involving for them an incomes policy, strengthening productivity measures and expanding productivity in these countries. It is to be hoped that the IMF and World Bank meeting to be followed by the UN special session will be an occasion when international policies and programmes will be decided to halt the declining trade trends and terms, the worsening of poverty in the developing world, the halting of growth in both worlds and the return of both to a 5-6 per cent rate of growth, the building of international buffer stocks and some forms of indexing along side of the creation of a new set of Third World institutions.

World Food : FAO's forecast for wheat and coarse grains in 1975-76, reflecting

the drought in the USSR and North Europe, the flood damage in East Europe and frost in Brazil reduces by 27 million tonnes or 2.5 per cent its original estimate. The U. S. estimates after more generous forecasts in early August based on a large carry over and a record of all crops production index, arrives at estimates towards the end of August which are close to the FAO estimates, placing wheat at 3.2 billion bushels, rice at 114 million CWT, maize at 4·6 billion bushels, oats, barley and rye at one billion bushels and groundnuts at 3.6 billion lbs. It has had to allow for reduced grain prospects for Western Europe from 140.2 million tonnes to 133.9 million tonnes due to adverse weather conditions. This means that the world reserve of cereals will be 103.3 million tonnes next year and not 112.7 million tonnes estimated a month ago. U.S. crop prospects are good and it is expected to export 77 million tonnes as against 56 million tonnes previously estimated.

World Production : The U.N. Statistical year book estimates world population in 1973 at 3,860 million, which is an increase of 228 millions (equal to the whole U.S. population) since mid 1970. The rate of growth was an annual 2.1 per cent, ranging from 0.6 in Europe to 3.5 in Latin America.

Asian Development Bank : The Asian Development Bank reports in August a total lending of $ 2,061 million for 199 projects in 21 countries. The Asian Development Fund, the soft loan window of the Bank, started operations in 1974, has received $ 400 million in pledges and committed it by the end of 1975. It needs $ 1,000 million for its soft loan operations for 1976-78 and has appealed to potential donors for this amount. Also the World Bank and IMF have urged a review of the capital base of all development financial institutions and on this basis the Board of Directors is examining a doubling of its subscribed capital by 1977 and a total lending plan of $ 5.5 billion, of which $ 2 billion will be on soft terms for the period 1976-1980.

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II Agricultural Development

Paddy and other food grains :

The State government has fixed a food grains target of 80.60 lakh tonnes for 1975-76, comprising 61 lakh tonnes of rice, 17 lakh tonnes of millets and 2.60 lakh tonnes of pulses, to offset in part the short fall in food grains production in the State resulting from last year's drought. To attain this target, paddy production would cover 40 lakh acres under various IR varieties and 15 lakh acres under other HYV, 6.5 lakh acres will be under hybrid millets and 11.24 lakh acres under other

improved varieties. For this programme, fertiliser use is to be increased from 22 kg. to 30 kg. per acre and plant protection measures intensified. Seeds distribution is being doubled from 9,000 tonnes of paddy to 18,000 tonnes and Rs. 10 crores provided as credit to the farmers. Above 12 lakh acres were under short duration paddy in August and all the river basins covered by HYV, with Thanjavur kuruvai being raised in 4.8 lakh acres. Also an intensive crash samba programme campaign is underway in Chingleput district, where 4,900 kg. of IR-20, Ponni and Bhavani seeds were distributed in 6 blocks. This will in part counter the rainfall shortage which delayed the 2 lakh acres pre-samba crop normally raised in Coimbatore and North Arcot districts. The government has announced that kuruvai procurement would be along the same lines as last year. The entire marketable surplus of kuruvai in Thanjavur district is to be procured through the purchase centres and open market purchases. The kuruvai levy rates for Coimbatore, Kanyakumari and Tiruchirapalli districts and the Sornavari crop in Coimbatore district were published under the Tamil Nadu Paddy (procurement or levy)Order in late August. The farmers are to be paid at the old rate and using December 16 as the dividing line, paddy procured before that date is to be classified as kuruvai and that procured after that date as samba. When new prices are fixed the farmers will be paid the difference immediately, with an incentive extra price to producers who surrendered their surplus paddy. As noted earlier both Tiruchi and Thanjavur report a fall in rice prices in August due to the unloading of stocks by farmers in view of the kuruvai harvest due in September/October and the strict police watch on movements from the district. In Tiruchi, prices declined by Rs. 30-40 per bag of 75 kg., the popular varieties of kudarival and ponni which has been selling at Rs. 350 per bag were available in mid August at Rs. 190-195 per bag. Similarly in Thanjavur district the price declined from Rs. 75 per 57 kg. to Rs. 69 and retail prices fell from Rs. 2.50 per kg. to Rs. 1.90. As noted earlier these declines have not affected the high prices in Madras city. On the millets production side, CSH-5 for cholam, PR-202 for ragi and Deccan 10 for maize are being extensively used by the farmers. Also the new cholam variety, Koilpatti Tall, is being widely used in the State, and it is hoped that this year's target will be attained if not exceeded with the use of the hybrids that is being pushed by the Department. On a more long term basis, the Tamil Nadu State Farms Corporation is launching a crash programme in 10 lakh acres in seven districts, involving massive exploitation of ground water and employment of 25,000 Sri Lanka repatriates who return home annually. Work has started on a 300 acre farm near Kanchipuram, where 5 bore wells have been sunk and swamps have been dredged. Some 10 lakh acres of uncultivated government land, private lands on lease and temple lands rendered surplus by law restricting their cultivation to 20 acres, are being developed for farming, with opening up the coastal ground water resources of Chingleput, South Arcot, Thanjavur, Tirunelveli and Ramanathapuram. By 1976 cultivation would begin in most of these areas yielding 2 tonnes of hybrid paddy per acre. It is expected that 3 crops—a food crop, a commercial crop and a utility crop—will be grown on these lands. During this year, the State will have also a record one lakh of acres under tapioca cultivation, which is double last year's coverage. One of the problems facing producers and planters in the lower Palani hills is the plant diseases which have seriously affected 15,000 acres of banana and coffee plantations. 10,000 acres over which malai vazhai are grown face destruction

from the bunchi top disease which has crossed over from *Kerala*. Already Rs. 30 crore of produce have been lost. Research is *urgently* needed to arrest the spread of the pest.

Research Results :

On the positive side, SERC, Rourkel announces that the ferro-cement bins that it has developed will eliminate the 15 per cent food grains wastage due to poor storage conditions in our villages in the State and country. A 16 village study showed that the traditional village storage structure made of bomboo, paddy straw ropes, mud plasters, timber and dry paddy stalks, being non-air or water proof *resulted in moisture getting* into the grains and some 150 lakh tonnes of food grains being spoilt and wasted in the country. The 1-2 tonne ferro-concrete bins which have been devised could be manufactured by the small scale sector and could be supplied to the farmers, half of whom can buy them and the rest given credit by the banks to purchase and use them. The integrated pest control in cotton and rice in the Coimbatore district is one of 12 operational research projects being launched by ICAR in the country *in* order to bridge the gap between research finding in the agricultural universities and research stations and farming practices. The fund of research results on land and water management and crop and live stock improvement built up by these bodies are being operationalised and transferred to the farmers for their use, particularly the small farmer with a less than Rs. 1,000 annual income. A feature of the scheme is first to present the research findings to the farmers and in light of their comments and suggestions to finalise the operational project, which will at long last tie in the scientist, the extension agent and the farmer in a feasible and operational programme to increase the small farmer's *income and get nearer the State and* Country targets for each crop. Another important IRRI finding which has been adapted to the State and Country is economising the use of chemical fertilisers, for which the rice farmer has a definite limit because of the cost factor. It is now found that placing urea in mud balls which can be produced by small inexpensive manually operated machines, reduces fertiliser use by about half, with a 25 per cent increase in the crop. Another economical paddy *nutrient is the blue green algae* which reduces chemical fertilisers use by one third. It can be prepared by every farmer in open air troughs, can be stored for future use, can be used continuously for 3 or 4 seasons to maintain high paddy yield and can improve the gas output of the gobar gas plant. In the State, progressive farmers in Thanjavur and Tirunelveli are using it and have enhanced their rice crop. The algae are being produced and multiplied in Rice Experimental Stations at Tirukuppam in Chingleput, Aduthurai in Thanjavur, and Ambasamudram in Tirunelveli district, where six units of multiplication have been set up in each station and use by the farmers in the *current samba crop*. Another useful programme is the growing of legumes which can be used as both vagetable and cattle fodder. IGFRI has developed 2 legumes which can be used in this double way and adapted to our rainfed dry lands in the State. They are IGFRI-S 2214-11 and 2218-1. A new method of sugarcane planting suggested by IISR replaces the 6-7 tonnes of canes per hectare of which only one third has the sweeter parts by spaced planting which reduces the planting to 2 tonnes per hectare, increases the yield to 140 tonnes per hectare (against the average 47 tonnes) and produces 400 kg. more sugar per hectare. This simple but effective method

must be demonstrated to our tradition bound farmers as a means of increasing their net income very considerably and surpassing our plan targets. If along side of the cane, potatoes are grown, IISR research has demonstrated that it increases the sucrose content of the cane (because of the starch) and yields the farmer an additional food crop.

Crop insurance :

The General Insurance Corporation's crop insurance scheme initiated in 1972 in Gujarat for cotton (by LIC then) and in 1974 for cotton in Thondamuthur and Satyamangalam, Coimbatore district (see Vol IV pp 436-437) is being extended to cotton coverage in Andhra Pradesh and Karnataka, and is being evaluated before further expansion. The scheme lost heavily on groundnuts (premium collected Rs. 1.5 lakhs and claims paid out Rs. 23.5 lakhs) and is being discontinued. One of the problems that the scheme faces is the lack of enthusiasm of the farmers for the scheme. More research and extension work needs to be done to popularise it in a State and country which faces considerable uncertainty of weather every year in some part o the country.

Tube Well Corporation :

The government is setting up a Tamil Nadu government Tube Well Corporation with Rs. 1.5 crores capital to utilise the 300 tmc underground water potential of the State. Initially the Corporation will tap the water to irrigate 12 lakh acres during the first 5 years. This will cost Rs. 30 crores which is the price of 400 drills to be fabricated at Bombay and Ranchi. ARC will advance the credit for the project at 7.5 per cent interest. This is part of the national 20 point programme as it relates to the 5 million acres additional irrigation target.

Fish Farming :

A detailed survey of the States 1,000 km. sea coast is being undertaken with the help of the Central Marine Fisheries sub-station in order to identify areas of squids and cuttlefish. Preliminary studies by the sub-station show large scale presence of these 2 varieties, for which there is a large demand in Japan, France and other European countries. Specialised trawlers and equipment and training programmes will be developed to exploit the squids and cuttlefish areas to the full. Another species which has a large foreign demand is mussels and plans are under way to introduce our fishermen to developing the mussel culture which will yield in returns four times its investment and with no uncertainty.

Tea :

The prospects for increased tea production in the second half of the year, especially during the peak exporting months, August to October, referred to in the last issue p. 474 must be realised as the first six months for the year recorded a decline of 12 million kg. at 148.3 million kg. This decline was due to the sharp 15.2 million kg. fall in North Indian tea production which was in part compensated by the increase in South Indian production by 3.3 million kg. at 53.6 million kg. Sri Lanka's production increased by 10 million kg. at 118 million kg., while the African production continued at a lower level as reported in the last issue. There is need for a vigorous tea export programme for this year, in view of Sri Lanka's increased production. The visit of the India delegation to West Asia, consumer oriented packing, country specific campaigns are some of the techniques advocated in earlier issues of the Bulletin, which can expand our

exports with tea prices ruling rather high in the international market.

Coffee :

The figures on 1974-75 coffee production and exports and export earnings and the targets for 1975-76 reported in the last issue p 475 remain unchanged. It is expected that the third international coffee agreement to come into operation in October 1970 will provide an export quota of 60,000 tonnes for India at the September meeting in London. The Coffee Board's plan to extend coffee cultivation to Andhra Pradesh, Assam and Orissa is being executed and its first export of instant coffee to the Soviet Union is being watched with interest.

Rubber :

In the first quarter of 1975 rubber production increased by 1,792 tonnes to 29,021 tonnes, while consumption declined by 934 tonnes to 34,457 tonnes. Above 5,000 hectares of rubber plantations are being replanted this year with the help of the enhanced replanting subsidy. The rhythm of the replantation programme will increase during the next replantation season.

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III Industrial Development

Salem Steel :

With the expenditure of Rs. 9.5 crores, all the infrastructural facilities for Salem steel have been set up. These include acquisition of the entire 1,530 hectares of land for the plant, site levelling for the cold rolling mill, the railway siding and the road link. Now the Union government's sanction is awaited to purchase and instal the cold rolling mill complex for which the specifications are ready.

Neyveli:

In August, orders for 3 sets of spreaders and conveyors were placed with the German firm, with delivery of the first expected so that it can be commissioned in 34 months, the second in 41 months and the third in 48 months. The orders for the excavators are to be finalised. There is also need to increase the pumping equipment, as 50 per cent more water will have to be pumped out in the future. The Rs. 140 crores equity base of the capital is being increased by Rs. 50 crores with another Rs. 50 crores as loan (see Vol IV p 498). The government approval of the Rs. 14 crores programme to convert the lignite based fertiliser unit into a fuel based one is now being executed and will be completed in 1978. The first mine cut covers 280 million tonnes, of which 40 million tonnes have been excavated. The second mine cut will cover 380 million tonnes. The total lignite reserves in the area are estimated at 1,500 million tonnes.

The thermal station is supplying 2,100 million units to the State grid this year, of which 700 million units have been supplied in the first 4 months. The only plant that is unsatisfactory is the briquetting plant which is using only one out of 9 lines of production. The Union government is about to take a decision on the financing of the five Super Thermal Stations, Neyveli (1,000 MW), Ramagundam (1,000 MW), Korbo (2,000 MW), Farakka (1,200 MW) and Singarauli (2,000 MW). One of the five might be deferred till later and the choice seems to be between Neyveli and Ramagundam—a difficult choice. The Neyveli 1,000 MW station will require the second mine cut with an annual lignite production of 7 million tonnes. While a 2,000 MW plant costs Rs. 800 crores, Neyveli's second mine cut will cost Rs. 220 crores and the power station Rs. 440 crores. The case for Neyveli is that this is the only way to meet the State's chronic power deficit, it will provide continuity with the expansion programme (from 4.5 million tonnes to 6.5 million tonnes) of the first mine cut and it will help standardise mining equipment in the country and enable us to produce it and the needed spares, instead of having to import them as at present.

Surgicals :

The Surgical Instrument Plant continues to make an annual loss of Rs. 1 crore. Despite the reduction of its capacity from the original 2.5 million pieces of 166 types of instruments to 1 million and the diversification of its produce to meet family planning instrument needs, this unit of IDPL continues to be a problem due to the product devised by Soviet expertise not being adapted to the country's needs, the nature of the demand which is for a small number each of a large variety rather than a large number of a few instruments and the price factors. In all these areas, the small scale unit has an advantage over the plant. The Union government has had under consideration a proposal to hand over the management of the plant to Hindustan Machine Tools or Bharat Heavy Electricals which might be able to use the good and valuable machines of the plant for a wide variety of instrumental and engineering products, while also changing the product mix of the plant.

Engineering :

The engineering industries in the State and South with a capital outlay of Rs. 230 crores and employing 44,000 workers are facing problems particularly with the declining export volume. An Association of Indian Engineering Industry survey of 40 companies in seven engineering groups shows that 35 per cent had to cut back on exports because of the power cut, 25 per cent because of credit rationing and 23 per cent because of declining sales. A majority of the companies expect export orders to increase by September, with a mixed picture with regard to prices. Most expect or have already experienced an improvement in prices. Other retarding factors in securing larger export orders are reported to be lack of competitiveness in the international markets and difficulty in obtaining shipping space. The Association should now take short and long-term action to counter these obstacles to increased production and exports.

Small Industries :

TIIC is setting up a management counselling service to deal with the 3 problems leading to losses and sickness in small industries namely, the lack of a timely decision on the product mix, marketing problems and finance. The service will

help the units on these 3 management matters as part of its development emphasis under which fifty per cent of its credit of Rs. 40.20 crores last year was for small units in backward areas. The government plans with regard to the State's 42,000 small scale units, 40 per cent of which are functioning on a temporary basis, to turn these temporary units into regular ones, so increasing small units at the rate of 2,500 units annually and aiming at a target of 12,500 units for the Fifth Plan. Regional meetings are being held by the Government with groups (7,000-10,000) of small industries to deal with their problems. A chaser cell to be set up in the Department of Industries will deal with the problems of adequate land, water and power faced by small as well as medium industries, help the Union government in expediting issue of licenses and the disposal of appeals against rejections, pending cases and collaboration agreements and the application of differential interest rates scheme for the weaker sections of small industries. In addition SIDCO, to deal with management problems and weaknessess of small units is organising modern management training courses for new entrepreneurs and is helping the units to develop market analysis and forecasts.

Drugs and Demineralisation :

Tamil Nadu Dhada Pharmaceuticals in co-operation with TIDCO through its Rs. 2.5 lakh research centre is developing the steroid industry from the basic raw materials stage involving use of indigenous plants in collaboration with farmers. Steroid is the source of many drugs like oral contraceptives, sex hormones, vitamin D and anti-cancer agents. The 1973 inaugurated company manufacturing tablets, injections, capsules etc. has drawn up a Rs. 3.2 crores expansion programme to increase manufacture of formulations, transfusions and other drugs to become effective by 1976. B and C mills commissioned in Angust a demineralisation plant to treat bore well water to make it edible as feed for its power boilers B and C has a captive power plant generating 80 per cent of its power needs and this plant constructed in 3 months makes the water in this water starved city usable for boiler and other plant uses.

Sugar :

A public sector Rs. 6 crore sugar factory is being established in Kurugulam as part of the programme to diversify Thanjavur district's single crop economy (see Vol III p 156). Thanjavur farmers and the public have been invited to subscribe to the shares of Rs. 1,000 and multiples thereof. The government also announced in August its plan to set up Rs. 1 crore mini sugar factories in order to meet the problem of the high investment cost of factories and meet also the problem of cane supply which is becoming rather serious. In this connection the government has appealed to the farmers to co-operate with the government in providing cane to the co-operative sugar factories, which are facing a shortage, as the government does not wish to enforce the obligation through legislation as in some other States. The reference was to the Amaravathi co-operative sugar factory which faces a serious shortage. There are also plans to start a few more co-operative mills. The 32nd report of the Estimates Committee of the State Assembly, noting that of the 16 sugar mills in the State, 9 are in the private sectors and 7 in the co-operative sector and the policy decision of the government that all new mills in the future will be in the public sector recommends, (a) expeditious setting up of the 8 new sugar mills proposed for the Fifth Plan, (b) expanding the capacity of existing factories in

view of the high investment cost of new factories as the alternative to setting up more than the 8 planned, (c) setting up small Rs. 1.5 to Rs 2 crore sugar mills which the government has accepted, (d) the sharing of the export earnings of sugar by the Union government with the States for higher prices to be given to cane growers and also fixing a higher incentive cane prices, (e) calling the Union government's attention to the Northern States not lifting the levy sugar allocated to them and so resulting in a pile up of sugar stocks in the factories, losses to the owners and delay in payments to cane growers and (f) nationalisation of sugar mills in the State, as sugar is an item of mass consumption. The last recommendation on nationalisation needs to be reviewed carefully as a case should be made against the private mills on grounds of economy, efficiency and equity to the consumers before action is taken. In August at the time of annual general meeting of ISMA, the attention of the Union government was called by the parliamentary consultation committee on industry to the fact that the disparity in levy prices as between different States under which the Southern States have had their prices reduced by Rs. 32 per quintal while Bihar had an increase of Rs. 25 per quintal should be corrected. This difference also tells on the cane growers and corrective action should be taken soon by the Union government.

Textiles:

The mills in the State and the South are producing good quality controlled cloth according to the results of the surprise checks of Regional Textiles Commissioner. The composite mills have also expressed their readiness to produce good quality controlled cloth to meet the preferences of the consumers, and have asked the National Co-operative Consumer's Federation to suggest the varieties which are in demand and on which they wish to concencentrate. SITRA's 1974-75 report which shows that 18 more units were enrolled during the year and that increasing number of mills were resorting to its research services are an indication that the textile mills in the State realise the importance of research to assure their survival in the increasingly competitive world. The Association's industry wide studies and consultancy helped the units improve their operational efficiency and maximise use of material and manpower to increase their production by 35 per cent and save Rs. 10 crores. SITRA has also been selected as a national centre for research and training in knitting technology. It is also aiding the decentralised sector through a power loom service and has contributed to progress in instrumentation in the industry.

Handlooms and Handicrafts:

The Union government has at last formulated a plan to help the handloom industry involving: (a) extension of coverage of handlooms by co-operatives from the current 30 per cent to 60 per cent, (b) operating intensive development projects of 5,000 to 10,000 handlooms in compact geographical area and as noted earlier, (c) setting export oriented pilot projects of 1,000 looms each to improve equality and design of export cloth, (d) adequate supply of inputs at reasonable prices and credit to primary weavers co-operatives, and (e) exclusive reservation of yarn dyed dhoties, low reed price cloth, all coloured sarees, dusters and towels. Now the plan should be implemented. A suggestion has been made by the Madras Dyes and Chemicals Merchants Association for a joint venture with the government to manufacture a semi-mechanical loom which would retain the essential features of the handloom but

provide for higher productivity, lower cost and variety of designs—a suggestion which should be further investigated. One other issue needs further study—the place of the master weaver, whom the Andhra Pradesh minister for handlooms referred to as a section of the trade which should prove its utility to the handloom industry and trade. To help the artisans in backward districts, the Tamil Nadu Handicraft Development Corporation is arranging for such artisans to obtain loans quickly from banks at 4 per cent interest which corporation will repay in 40 to 60 days. The Corporation buys the handicrafts from the artisan who presents the letter of recommendation from the Corporation to get the loan speedily at the differential rate of interest. The Corporation's report for 1974-75 shows a 125 per cent increase in sales to Rs. 1.32 crores and its target for this year is 2.3 crores, including Rs. 10 lakh exports (last year Rs. 2.5 lakhs). 80 per cent of its sale proceeds are given as cash to artisans, for whom it is running 14 training, 20 production and 19 emporium centres.

Leather :

Leather exports fell by 20 per cent in quantity and 23 per cent in value in 1974-75. It is true that the export record of April-June this year at Rs. 1.44 crores is better than last year's April-June Rs. 63.28 lakhs and footwear earning of Rs. 4.22 crores against last year's Rs. 2.56 crores. But there are problems which face the industry and its export potential. One is the procedural delay in canalising exports through STC which can and should be removed. A second is the industry's demand to lift or at least release the quota system which reduced exports by preventing active tanners from using their capacity fully. Although the conversion to finished leathers was proceeding apace, due to lack of marketing know how, large quantities of EI tanned and wet blue skins had accumulated. Third there is also the 20 per cent export duty which the industry regards as a handicap and is of help only to big traders and producers. Fourth there is the dwindling supply of raw leather which due to the fall in the consumption of meat is expected to decline by 40 per cent compared to last year. Export orders are pouring in and the export target of Rs. 250 crores can be attained if all these problems are met. The State has particular issues in the leather area. It rightly regards the decision to locate the headquarters of the merged Leather Export Promotion Council and the Export Promotion Council for finished leather and leather manufacturers in Delhi as wrong as 80 per cent of leather exports are from this State. The Council will not be in touch with the industry and become a rival to small tanners and exporters in the State. Also the State Export Promotion Advisory Committee has rightly demanded that the major part of the Rs. 2 crores collected as leather cess from this State should revert to this State to develop the industry instead of the proposed allocation of 15 lakhs. Again the Rs. 2 crores allotted by the Union Planning Commission for the proposed Leather Development Corporation should be allocated in great part for programmes in this State.

Private sector reports :

The annual report of Pandyan Chemicals for the year ending 31 March 1975 calls attention to the commissioning of the plant to produce potassium chlorate from 31 May. The project is a TIDCO collaboration project and is supplying the match factories and industry with the needed chemicals in the neighbourhood of Sivakasi, Sattur, Kovilpatti and Gudiyattam.

IV Education, Science and Health

Educational Reform :

The major event in August was the all India agreement forged at a 2 day seminar in Delhi on the 10 year school curriculum with regard to objectives, the range of subjects to be studied, the detailed syllabus for each class, the abolition of optionals and the concentration on a sound basic general education in languages, mathematics, general science and general social studies. Work experience is woven into the 10 year curriculum at all stages. Now the States will have to work out the details of the agreed programmes to suit the conditions in each State within this general framework. The Union ministry reports that the total enrolment in educational institutions in the country reached 10 crores in 1974-75, with 86 per cent of the age-group 6-11 being enrolled, 36 per cent of the age-group 11-14, 74.8 lakhs at the secondary schools and a 3 per cent increase in University and college education. Budgetted educational expenditure increased by 14 per cent for the States and 22 per cent for the Union government for 1974-75, and was 26.3 per cent of the States and Union budgets together. In the State, in-service programmes for training teachers in the new curriculum are under way. Rs. 25 lakhs are being spent, increasing these refresher courses which should touch, in time, all the 24 lakh teachers. Also a new syllabus for secondary grade teachers in the training schools emphasises teaching techniques and health, hygiene and community education. At the University level, the State Minister of Education once more called for launching the system of autonomous colleges, the Vice Chancellor elaborated on correspondence courses, evening classes and private study and ultimately radio and television courses as non-formal higher education offered to meet the growing demand for higher education. Also study circles of college professors and principals at seven centres have been started to improve the quality of teachers and their teaching in Madras, Thanjavur, Tiruchi, Coimbatore, Salem, Madurai and Tirunelveli. In each centre, 3 circles in Maths and Statistics, Physics and Chemistry and Botany and Zoology are being run to review the quality of teaching and agree upon improvements in teaching methods and syllabus. The government is also making available to post-graduate students, information on the IAS and other competitive examinations through the principals of colleges so that able students in the mofussil areas who have no access to such information can prepare themselves for these competitions in which there has recently been a decline in the numbers from this State. In University reform, the Andhra University is planning to launch an open University under which any one—without a matriculation or PUC prior qualification—can sit for a degree examination. This would be a means of meeting the demand for higher education. In Madras, the new Vice Chancellor and the syndicate have established a package of policies for the year 1975-1978 based on the national and State objective of growth with social justice and the education objectives of universalising education and raising its excellence at the higher level. To attain these aims it is proposed to follow the principles of legitimacy, continuity and gradualism. The two specific aims of University during this 3 year period are to be to expand sound under-graduate education through the affiliated colleges and to develop a level

of excellence at post-graduate education and research with the University departments as the lead agents. To this end, the affiliated colleges as the sole means of expanding undergraduate education are to be strengthened, financially helped so that they do not go in for questionable means such as donations, authority decentralised to them, the status of teachers regularised and students needs more adequately met, the college all to be encouraged to use the UGC development grant of Rs. 5 lakhs to develop evening classes, private study and correspondence courses to meet the demand for education and provide compensatory coaching to backward students. To deconcentrate the University it proposed to take action for the creation of the Madras University of Science and Technology, to help UGC and the Tamil Nadu government develop two unitary Universities at Tiruchi and Coimbatore and launch 6 autonomous colleges. Also the possibilities of turning over the 34 matriculation schools to the Department of Education to become part of the 100 feebased schools recommended in the State's Perspective Plan are to be reviewed. Continuous curricular revision, flexibility in its application by the affiliated colleges and the introduction of the semester pattern for all university and college courses at the undergraduate and post-graduate levels and a study of the feasibility of central valuation and computerisation are proposed. At the post-graduate level, the University Departments are to become post-graduate teaching departments and supervise M. Phil and Ph. D. registered students. Administrative procedures regarding staff progress, reports, purchase procedures scholarships procedures and amenities for staff are also proposed. At the national level, the Union government is examining the possibility of strengthening the University Grants Commission so that it may discharge its responsibilities more effectively for the maintenance of standards. The possibility of placing education in the concurrent list is being considered to speed the process of education reform. This could become a means of retarding excellence and should be carefully seen through. The open University plan is now ready for implementation and non-formal education techniques such as correspondence courses, evening colleges and NSS are to be actively promoted. The Union government has asked colleges to establish book banks to provide text books free of charge to poor students, is arranging for supplies of essential goods to student hostels and canteens and has provided paper at concessional prices for school text books and note books. It has requested Universities to reserve a certain number of teaching posts to scheduled castes and tribes teachers. College teachers are urging the State government to implement UGC scales in the State and to provide teachers and non-teaching staff medical benefits as is done to government officers.

T. V. and Press :

For the State and the Country, August saw two important developments in the field of television. On August, the SITE programme started with 2,400 TV sets in the village clusters of six States and 500 sets in Kaira district, Gujarat coming alive at 6.20 P.M. Programmes on health, primary education, family planning, agriculture and nutrition are being transmitted daily to the villages. NASA which has loaned the satellite has invited an Indian scientist to join the 1980 space shuttle which will undertake various scientific experiments and be a precursor to space travel. Inter city TV links between New Delhi and Bombay, New Delhi and Calcutta, Bombay and Madras, New Delhi and Srinagar and Bombay and

Poona are being developed by the P and T department. With these micro wave lines between cities, two way transmission of television will become possible. With the commissioning of the Calcutta TV Station as the fourth station in the country on August 6, the possibilities of exchange of TV Programmes with Bangla Desh has become possible. At the Rs. 5 crores advanced level Telecommunications Training Centre, television transmission training will be undertaken, updating knowledge and skills of maintenance personnel and training decision makers in TV. For the State, August 15 was a land mark as on that date, TV was launched from the Madras Studio (see Vol V page 420) to cover the city of Madras. The transmission includes school TV in the morning and entertainment and news in the evening. The Madras Corporation has provided a few of its high schools with TV sets to follow the school TV programmes. Its effect should be continuously evaluated. Mass education programmes should be developed in time for early next year when the transmission will extend upto 100 KM around Madras. On the newspaper side, the Union government has stated that it has under study the restructuring of the newspaper industry to make it more nearly meet the needs of society and the country. This is a delicate matter which must be combined with safeguarding press freedom. The stakes are high, for India is the fourth highest in the newspaper world after China, US, and West Germany, according to the Unesco 200 country survey, which also reports that with 433 feature films, India holds the first rank in the film industry.

Technical Education :

The Krishi Vigyar Kendra, the country's first agricultural polytechnic at Pondicherry saw the foundation stone of its permanent building laid in August by the Union Agricultare Minister. The polytechnic has been functioning during one year in temporary building, training young men in water management, vegetable growing, tractor maintenance and fruit preservation. The middle level field and agricultural assistants in training will provide the extension programme its much needed personnel but even more the future agricultural teachers in our rural secondary schools and farm managers. The three farmers' training institutes at Coimbatore, Madras and Madurai will be training working farmers in modern agricultural methods and practices, which will provide a feedback to the agricultural University and its teaching and research programme. Following the recommendation of the Srivasatsava committee (see Vol V pp 5, 292 and last issue pp 482 and 483) announced in August, the establishment of a National Board of Medical Examinations to provide facilities within the country for FRCS and MRCP type post-graduate degrees was announced by the Union ministry of health. The committee recommended that this Board should be an independent statutory body entrusted to the Indian Academy of Medical Sciences for its setting up and running. The Academy is a private registered body of medical scientists and it has been granting MAMS degrees, as the Bombay college of Physicians and Surgeons have been awarding FCPS degree. There are 2 problems here. First the Academy will have to become a statutory body to take responsibility for the National Board. Second medical scientists are divided on whether the fellowships and diplomas now awarded by the 2 private bodies on the basis of examinations without a training course will be adequate. The government is reviewing these matters to arrive at a decision on the constitution of the Board. Another recommendation of the committee is also being acted upon. The

president of the Indian Medical Council announced in August that a Medical Grants Commission would be set up to facilitate the growth of medical institutions and health services. The Council will advise the Commission as to the organisations and institutions which should be given grants. This is a much needed programme to improve medical education. Alongside there is need to promote post-graduate medical education but avoid it becoming an escape valve for graduates who wish to avoid rural service.

Science :

The controversy on irradiated wheat in order to deal with the storage and post storage problems of wheat continues. The National Institute of Nutrition holds that the potential hazards from irradiation of the major staple of the country, wheat, is unnecessary. NIN claims that there is a consistent and significant increase in the number of abnormal polyploid cells following the feeding of irradiated wheat to rats. Similar growths were noticed in children who were fed irradiated wheat before the danger was recognised and the programme terminated. The Department of Atomic Energy on the other hand claims that irradiated wheat does not aggravate these abnormal cells and that NIN's findings are false. A committee presided over by Dr. M. S. Swaminathan which was asked to go into this dispute has not been able to reach conclusions and make recommendations except the recommendation for further joint studies by NIN and DAE on post irradiation storage problems of irradiated wheat, potatoes and onions, keeping irradiated wheat in storage for a minimum of 6 months before being released to the public, and an expert evaluation of the data on this question by a geneticist, Dr. P. C. Kesavan, and a statistician, Dr. P. V. Sukthame. It is also recommended that an inter-ministerial technical committee should go into the techno-economic aspects, the cost benefit relationships and the feasibility of adopting radiation technology for food preservation on a large scale. CSIR has developed closer relations with industry and has permitted its scientists to set up industrial units based on CSIR developed technologies for which a 3 year leave of absence is granted to them, has contributed to Aryabata's fabrication as also to its successful functioning (as of mid August it completed 1,800 revaluations), and has helped exploitation of its technologies—NML on sponge iron, NAL on fibre reinforced plastics technology, and an electron beam, NCL on rubber technology, CFRI on pelletisation process and IIP on product pattern of refineries. The gobar gas plant which is fast spreading calls urgently for R and D work on (a) the technology of collection and preparation of poultry and agricultural wastes, (b) chemical engineering design of the plant, (c) alternative materials like ferro cement for the gas holder, (d) safety methods and operations, (e) fertiliser characteristics of the sludge, (f) fermentation para meters, (g) alternative lining for the digester and (h) comparison of social costs of different sizes of the plant. IARI and KVIC should finance research on these residual issues. Further to the R and D contribution of the States referred to in the last issue page 483, the 17 State Research and Development Design Committees are now nearly 2 years old. They have helped industries learn how to use R and D, update their technology and have begun helping small industries. This last should be their main job and for this the States must increase their R and D allocations.

Health :

The State health authorities report that due to some retarding of the Malaria Eradication Programme, there is a recrudescence of malaria. During 1974, 20,000 cases were detected in the State, in Madras city alone between January and July 10,000 cases were reported from the hospitals, with a large number unreported. An intensive publicity programme has been launched in the City, in the corporation schools and in the slums where teams of health and sanitary inspectors are going round using films, film strips, pamphlets and a float in order to educate the people on malaria control measures. In addition the eradication programme should be given the resources to operate and control the causes of the disease. ICMR's National Nutrition Monitoring Board in a 2 year diet survey, 1972-74, of 5,836 households covering 33.761 individuals has come to important conclusions on the nutrition status and pattern in the States; namely, that in all States the calorie intake is inadequate in very low and low income groups, and that except in Kerala protein inadequacy is invariably associated with calorie inadequacy (in Kerala alone there is calarie adequacy but protein inadequacy). Of the households surveyed 61.5 per cent have an income of less than Rs. 1 per day, 25 per cent between Rs. 1-2 and 11.1 per cent between Rs. 2-5 Consumption of cereals and millets were highest in Karnataka and lowest in Kerala, with Tamil Nadu being in the 6th rank. The mean consumption of pulses was well below the minimum 70 gms., green leafy vegetables less than 10 gms., and except in Gujarat low intake of milk, oils and sugar. The highest mean intake of proteins was in MP and lowest in Tamil Nadu. The intake of calcium and iron increased with the income and in the latter case was the lowest in Kerala and Tamil Nadu. In the low income group, Tamil Nadu had the highest percentage of families with low calories and protein intake group. These findings can be used in both the adult education and nutrition programme of the States and Tamil Nadu to undertake corrective measures. A Union government review of the Family Planning Programme shows that none of the States could achieve the 1975-76 first quarter targets, which are 7.5 million acceptors (2.5 million sterilisations, 0.8 million IUDs, 3.75 million conventional contraceptives and 0.25 million other methods) for the year. The Fifth Plan target is to protect 42 million couples against the present 16 million, to bring down the birth rate to 30 per 1,000. A six member panel has been set up to restructure the programme and attain the targets. For Tamil Nadu the targets are 2,11,300 sterilisations, 29,700 IUDs, 1,44,600 conventional contraceptives and 16,000 other methods for the year. It is in this context that at the Association of Surgeons of India meeting, the State minister of health has called attention once more to the mere 2 per cent of the State's surgeons being involved in the programme and appealed to the surgeons to help make sterilisations more acceptable to the people by assuring them that the vas can be reconnected. They and the voluntary agencies have a major role to play in intensifying the effect of the programme which has reduced the States fertility level from 40.9 per 1,000 in 1951-60 to 28.5 per thousand in 1974-75.

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V Employment

As a partial reflection of the employment situation in the country, the RBI Bulletin's published information on exchange permits and approved 'p' forms shows that out of 76,608 applications, in 1974-75, 20,504 were for employment abroad compared to 6,924 in 1973-74, an over 300 per cent increase. Rs. 367 crores were released for technical causes (up by Rs. 60 lakhs over the previous year) mainly for study in US and Canada. Permanent migrants were 9,732 compared to 6,761 in 1973-74. To promote the spread of employment, in general, University employment guidance bureaux are to be reorganised and strengthened and their working procedures reviewed at periodic seminars. The world employment situation is equally sombre. An ILO study warns that the present 300 million unemployed or underemployed in developing countries will double in 2 decades, unless present global economic trends are reversed. In this regard trade liberalisation for exports from developing countries is decisive, taking account of the fact that the displacement of 1 worker in the US creates 2.8 jobs in developing countries with $ 500 GDP and 6.5 jobs in countries with $ 100 GNP, and in the case of OECD countries the figures are 2 and 4.6 workers. In the matter of self-employment in the country, Andhra Pradesh has made a successful special effort in aiding 6,527 small entreprenures to establish themselves in fields ranging from mechanical engineering, chemicals, leather to cloth shops, general stores, fair price shops and service units, generating employment to 22,927 persons. The review of the Apprenticeship programme at the national level has shown that at present after filling by mid August 25,000 seats there were 13,000 seats in the Union sector and after filling 16,000 seats, 27,000 in the State sector fell vacant which should be immediately filled. Also it was found that the apprentices are not being paid their stipends, that stipend payments are being used as a reason for the filling of vacancies and that the stipends need an upward revision. A committee has been appointed to correct this situation and another committee under the Union minister of education is arranging for apprenticeship programmes for engineering graduates and diploma holders. It has been decided to add 40 new trades to the Act making a total of 100 trades against the Fifth Plan target of 150 trades. Like Assam and Pondicherry, Tamil Nadu has exceeded its target of 6,363 seats by placing 6,800 apprentices in position. The Union government has decided to adopt the ILO convention of equal pay for equal work for both men and women which was ratified 17 years ago, and will be bringing forward legislation in this regard. According to the 1971 census out of a total work force of 180.4 million, 11.9 per cent or 31.3 million were women, 80 per cent of whom are employed in agriculture. The definition of the participation of women in the work force needs review, as the present one presents a partial and distorted picture. Also their unionisation is still poor, growing from 5.9 per cent in 1965 to 8.2 in 1968, women unionists being found mainly in manufacturing, agriculture, forestry and fishing. Legislation and executive action should aim at removing these discriminations. On the wages side, the agreement on wages in the steel industry at the end of July was earlier noted, and the Union government in early August raised minimum agricultural wages in the Union sphere from Rs. 3.50—Rs. 5-15, to Rs. 4.45

—Rs. 6.50. The States must undertake a similar revision. Industrial accidents are on the decline in the State from 25,126 in 1974 to 10,432 cases for the first six months of this year. Even this is high and industries should set up safety committees to deal with this problem. The Union government reports a considerable improvement in industrial realtions in the country. In the Union sector, in July and August there were no work stoppages because of the decision of the workers, and the welfare measures in effective operation. Conciliation has been speeded up with 3,000 inspections, 300 settlements, 94 per cent disposal of workers' representations, and 1,519 prosecutions, against defaulting prosecutions. In Tamil Nadu there is a problem faced by the 2 lakh plantation workers over the payment of 1974 bonus and as a consequence with the failure of conciliation talks in August there is an atmosphere of tension, which might also affect the productivity of the plantations, which reached a high level last year. The Union government is working on a model scheme for workers' participation at the top floor level and the major issue to be resolved is which Union is to be associated with the scheme in each factory. Also there is need to define more fully what participation means, a share in equity, in the board of management and/ or direction, involvement in the whole process of investment, pricing and distribution decisions, self-management (auto gestion) of the Yugoslav type, etc. This issue is part of the broader socio-economic structural issue of social ownership and control of assets and productions means and instrumentalities.

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VI Other Items

Educational Structure :

A meeting of the Committee on Educational structure in the State was held on August 2 to examine the revised draft report on the modalities of introducing the 10+2+3 system. Agreement was reached on all the issues and the need to work out the detailed cost estimate of the system was noted. A final meeting is to be held in late September to approve the estimates and the final report.

Education Finance :

A meeting of the Education Finance Review Committee was held on August 8 to examine and comment on the fellowships and scholarships programme and complete the discussion on the means of augmenting the sources of income to meet educational expenditures. The issue that had remained for discussion was the system of contribution from the Panchayat Unions towards the cost of primary education. Agreement was reached on the system to be recommended.

Indian Society of Industrial and Fiscal Economics :

The application of the Society for tax exemption was examined in August by the inspecting committee. The Society located in the University of Madras is at its starting stage and has run a certain number of seminars and conferences, published somewhat irregularly a journal and the proceeding of its meetings. Advice was rendered on the membership of the governing organ of the society, and means of ensuring regularity and periodicity in its programme of meetings and publications.

NCERT :

A third meeting of Education Research and Innovation Committee of NCERT was held in New Delhi in August at which the priorities for educational research during the Fifth Plan and the regulations of the Council's fellowship and research grants schemes approved at an earlier meeting (see Vol V p 226) as reproduced in a brochure was noted with approval. The research schemes for which grants were requested were examined and on the basis of the advice from appropriate bodies decisions made. It was noted that the research priorities that had been decided had not yet percolated to the level of the research specialists and the need for the Departments of NCERT and the Regional Colleges taking a lead in this direction was emphasised.

Ethiraj College :

The inauguration of the Economics Association of Ethiraj College, Madras on August 13 was an occasion to review the strengths and gaps in the current techniques and models used in the teaching of Economics. Next year will be the 200th year since the science was born with Adam Smith's Wealth of Nations, and it was agreed that the occasion should be used to examine our own economy to develop conceptual frames and analytical tools of relevance to our current and future economic development.

Emergency and the Universities :

The situation in the Universities and colleges in the State during the current Emergency was reviewed in mid August at a meeting of University and government personnel. The need for pursuing the academic functions of the institutions, meeting the material needs of students and student hostels, canteens and co-operatives through the full use of the provisions made for supplying essential goods through the State Civil Supplies Corporation and the supply of paper at concessional rates by the Union government were matters of general agreement.

Indian Council of Cultural Relations:

Republic Day, August 15, was an occasion for bringing together some of the 1,500 students from Asia, Africa, Europe and the Americas studying in the city colleges. The meaning of the Republic day, the solidarity of India with other Third World countries, the imperatives of development and the decision to share the the learning opportunities in the State and Country with students from other countries were discussed and emphasised.

Curriculum Conference:

The National Curriculam Conference for the 10 year school, as noted earlier, was held at Vigyan Bhavan, New Delhi on August 18 and 19. The conference was helped by a clear and high level brochure on the new curriculam that had been brought out by NCERT. This in part helped to bring about a real national

consensus on the form and content of the curriculam, which will both raise the level of school education for the students and provide a basis for sound higher education.

Padma Seshadri Matriculation School:

The school celebrated its annual day with an impressive display of the learning and dramatic talents of its students in each of the 10 classes. The school is able to run a sound flexible programme for its students who are all fee paying and who grow in real learning and distinguish themselves academically.

Tata School of Social Sciences :

The governing board of the School met in Bombay on August 18 to review the work of the School and note the research work of the staff which is of high quality. It decided to introduce the new UGC scales of pay for the staff, and made other appropriate administrative decisions. The implementation of the recommendations of the review committee by the Academic Council is proceeding satisfactorily.

Tata McGraw Hill :

A meeting of the Board of Governors of Tata McGraw Hill was also held on the same day in Bombay. The meeting devoted its discussion to a long-term publication plan for the company based on the needs and potential of the academic world and the limited resources available to the company. The immediate programme for the year has been well established and agreement was reached on the criteria and means of developing a long term programme.

State Educational Development:

The occasion of the celebration of the 56th birth anniversary of the State education minister was used to review in a series of public meetings the educational achievements to date and the tasks ahead in the State. There was general agreement highlighted by the minister that at the school level as well as that of the University the major task is that of attaining qualitative excellence. At the University level this can go side by side with needed quantitative expansion.

Inter-department Council, Madras University :

The University has formed an Inter-departmental Council comprising the professors of the department and the Research Scholars Association to assist the Vice-chancellor in the academic functioning of the University. The first meeting held at the end of August made a number of decisions setting up procedures for review of the teaching and research work of the University and preparing for the Syndicate, Senate and Academic Council various programmes for improved teaching and research.

Syndicate, Madras University :

A meeting of the Syndicate on August 30 devoted a major part of its time to discussing and approving a package of policies for the 3 years, 1975-78, proposed by the Vice-chancellor, referred to earlier. It also went on record paying a tribute to the sound and effective services of the previous Vice-chancellor. It decided on a number of academic and administrative matters.

Special Seminar :

The third session of the special seminar on educational Development in Tamil Nadu was held in the seminar room of the Institute on Friday August 29 when

Mr. J. Krishnamurthy's paper, *Functional Literacy*, was reviewed. It was agreed that (a) there is need to relate literacy to various functionalities in our State, (b) techniracy should be a supplement and not a replacement of functional literacy and (c) the PEP programme presented in the paper round the Ambar Charka is a good model to be extended to all other development programmes, starting with primary and secondary education.

September Seminar :

The September seminar paper, Women in Tamil Nadu by S. Nityananda, Librarian, MIDS together with a summary of the discussion of the paper on Thursday, September 25 held in the seminar room of the Institute appears as the first article.

Second Article :

A paper, Energy Conservation, appears as the second article.

WOMEN IN TAMIL NADU

By

Mrs. SARASVATHI NITYANANDA

Madras.

In early history and literature, women in Tamil Nadu present an image of liveliness and gaiety enriching by their intelligence and happy capacity the culture of a cosmopolitan maritime society with its links—commercial and cultural—extending from the Mediterranean world to Southern Asia. In the centuries that followed, this bright picture of assured participation has been dimmed but had never been entirely erased. In a socio-political structure on the defensive, social custom and religious leadership combined effectively to narrow the horizons and restrict the activities of women all over the country till a point was reached when, women in Tamil Nadu became increasingly subservient, their physical world restricted to the kitchen and the inner courtyard; their minds imprisoned in tradition and superstition and whatever potential ability there was, destroyed by child marriage and premature family burdens.

Though leaders of social opinion in the early years of the 19th Century, notably Ram Mohan Roy and Keshub Chunder Sen succeeded in securing legislative sanctions against the worst disabilities women had to endure, it was not till the nationalist movement gathered momentum during the home rule agitation that there was a sharp awareness of the fact that the Indian institutional and cultural frame debarred half the population from any considerable education on the specious grounds that family life would be maladjusted, treated it as almost subnormal in intelligence and aptitude and—of course for its own good—hedged it in by restrictions on person and property rooted a patriarchal pattern of joint-family property ownership, social prestige and spurious religious sanctions. Swami Vivekananda, Ranade, Gokhale and Mahatma Gandhi played a crucial role in educating India's political leadership to the realisation that in its treatment of women and scheduled castes Indian society rested on unsound foundations. As a result, the leaders of India's Independence movement were inspired by a special concern for these two elements in the body politic, and the architects of the Republic's Constitution ensured that under the law there was no ambiguity in the equal status accorded to women. The evident insight of the law makers into the havoc created by discrimination is expressed in Article 15 (fundamental rights) of the Indian Constitution. Article 39 (Directive principles) further fortifies the position of woman as an individual, making it a principle of State policy to secure to women an equal right to livelihood, equal work for equal pay and to ensure that they are not forced by economic necessity to enter 'avocations unsuited to their age and strength'. The unequivocal stand taken by the constitution is further supported by social legislation and labour laws—many of these being enacted before Independence.

The promise of betterment of the status of women in India held out by the broad

and generous legislative frame has however not been fulfilled in any considerable measure. Twenty five years after independence the report of the task force on 'The Development of Human Resources and Social change for economic Development' entitled 'A New Society Through Renaissance in Tamil Nadu', commissioned by the Tamil Nadu State Planning Commission, identifies women among the disadvantaged groups requiring special programmes to compensate for centuries of deprivation, to expedite and encourage the development of their almost untapped potential capacities—and enable them to take their rightful share in the exhilarating task of the development of Tamil Nadu and make their special characteristic contribution to the National ethos.

The State's Perspective Plan for 1972-84 (modified to 74-84) outlines the special action required for women in the areas of employment and training, social, change, welfare health and Education. The recommendations of the Task Force on human resources which form a part of the State Perspective Plan lay special stress on employment, social change and integrated family and child welfare services. The Task Force on Rural Development spells out the modifications called for in the structure and distribution of existing institutions concerned with Women's Welfare. The special priority area of care of expectant mothers is discussed by the Task Force on health. The problems of wastage in girls education are surveyed by the Task Force report on Education, Science and Technology.

The present demographic status, the levels of education, employment and welfare and some observation are the extent of attitudinal changes in the areas of the family planning—familial decision making are outlined in this paper.

Some Demographic Characteristics :

In terms of 'woman power' Tamil Nadu's Women number 20.330 millions forming 49 per cent of the State's population. Of these 20.330 millions, 14,264,475 women live in rural areas and 6,066,101 live in urban areas. The urban female population is 29.79 per cent and the rural 70.21 per cent as compared to the overall urban and rural percentages of 30.3 and 69.7 for the State as a whole. There is a progressively adverse sex ratio being 1,007 in 1951, 992 in 1961 and 979 in 1971. Though this reflects the trend in the country and in the southern region except Kerala, the Tamil Nadu figures are somewhat disquieting as the disparity is quite sharp. Further the comparative statistics cited by Kumudini Dandekar on the higher survival rate of male infants in the first year of life in India in contrast to international statistics, raise queries about pre-natal maternal care if there has been a sequence of female births and post-natal infant cure which can be answered only by careful investigation.

* The district population distribution presents interesting features.

Except for Madurai and Tiruchirapalli, where the sex ratio is equal in rural areas but low in urban, Ramanathapuram and Tirunelveli show a composition of 1055/ rural and 1011 urban women per 1,000 males in Ramanathapuram and 1,055 (rural) and 1,024 (urban) in Tirunelveli.

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* refer table overleaf

TABLE 1

DISTRICT-WISE POPULATION OF WOMEN IN TAMIL NADU

District	Rural	Urban	Total	Females per 1000 males (Rural)	Females per 1000 males (Urban)	Females per 1000 males—Total
Madras	———	1,171,502	1,171,502	———	902	902
Chingleput	920,327	480,544	140,087	954	917	941
North Arcot	1,461,963	384,424	1,846,387	978	969	976
South Arcot	1,525,696	250,359	1,776,055	973	954	970
Dharmapuri	753,996	70,178	824,174	971	952	970
Salem	1,079,055	388,135	1,467,190	970	955	966
Coimbatore	1,382,629	747,076	2,129,705	973	927	956
Nilgiris	122,270	116,791	239,061	966	929	948
Madurai	1,304,211	649,074	1,953,285	1000	964	988
Tiruchirapalli	1,495,626	418,905	1,914,533	1001	960	992
Thanjavur	1,518,743	392,449	1,911,192	995	992	995
Ramanathapuram	1,084,403	374,825	1,459,228	1055	1011	1044
Tirunelveli	1,111,307	520,195	1,631,502	1053	1024	1044
KanyaKumari	504,247	101,644	605,891	970	990	974
Tamil Nadu	14,264,475	6,066,101	20,330,576	991	951	979
All India	213,851,451	50,264,261	264,115,712	952	839	932

Source : State-wise Primary Census Abstract 1971, (Provisional) Census of INDIA 1971.

Literacy :

A wide difference in urban and rural levels of literacy is evident from the all India statistics and the gap is even wider as between urban women and rural women. This general trend is reflected in the southern states—Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and the Union Territory of Pondicherry. Except for Andhra Pradesh where percentages are still below the All India level, the other states show a much better performance, notable progress being made between 1961 and 1971, a break up of illiteracy percentages underlines the fact that illiteracy specially of women is primarily a rural problem though certainly not an unsurmountable one as the instance of Kerala proves—the differential between urban literacy percentages for women (60.52) and rural levels (52.63) is a comparatively narrow one. The relative position of Tamil Nadu vis-a-vis the southern states in respect of the increase in the percentage of women literates from 1961 to 1971 is evident from the following table.

LITERACY RATES : 1961 and 1971 (P)

	Female literacy rate 1961	1971 (P)	Percentage increase of female literacy
Andhra Pradesh	12.03	15.65	30.1
Karnataka	14.19	20.76	46.3
Kerala	38.90	53.90	38.6
Tamil Nadu	18.17	26.83	57.7
India	12.5	18.4	42.4

Source : Census of India, 1971, Series 1 India, paper 1 of 1971 P : provisional

The Rural urban differential for 1971 for the states in the southern region is presented below :

FEMALE LITERACY RATES: RURAL AND URBAN – STATES IN THE SOUTHERN REGION

States	Combined Rural and Urban	Rural	Urban
Andhra Pradesh	15.65	10.88	35.86
Kerala	53.92	52.63	60.52
Karnataka	20.76	14.74	41.32
Tamil Nadu	26.83	18.87	45.55
Pondicherry	32.4	—	—
All India	18.44	12.92	41.91

Source : Census of India, 1971-Statewise primary abstract

The percentage of increase in rates of literacy in Tamil Nadu is indicative of the effort being made to deal with the problem of female illiteracy and is also a possible index of higher enrolment and retention rate of girls in primary and elementary schools. An age wise analysis might reveal the core areas of persistent illiteracy. District wise data presented in the table below conveys the extent of regional variations and imbalances during the decennium 1961-71.

LITERACY LEVELS OF WOMEN BY DISTRICTS IN TAMIL NADU 1961-1971

DISTRICTS	Percentage of literates of total population			
	1961		1971	
Madras	48.2	(61.69)	52.70	(70.48)
Qhingleput	75.6	(40.21)	26.65	(50.73)
North Arcot	12.9	(37.12)	21.17	(47.02)
South Arcot	12.65	(40.55)	17.90	(44.65)
Dharmapuri	7.46	(23.68)	12.50	(31.35)
Coimbatore	16.66	(43.28)	26.13	(50.94)
Salem	11.35	(32.75)	19.98	(42.50)
The Nilgiris	21.92	(48.27)	35.11	(58.79)
Madurai	18.62	(48.12)	28.14	(54.90)
Tiruchirapalli	15.30	(44.69)	23.39	(51.38)
Thanjavur	18.65	(48.67)	26.60	(53.42)
Ramanathapuram	16.79	(48.34)	25.22	(54.47)
Tirunelveli	23.46	(49.99)	33.06	(57.40)
Kanyakumari	40.73	(56.24)	51.94	(64.10)
Tamil Nadu	18.17	(44.54)	26.83	(51.69)

P: Provisional

Source : Census of India 1971 series 17 Tamil Nadu

(figures in brackets are literacy levels of males)

While the aggregate percentages convey an idea of areas in which some momentum has been generated and we can reasonably expect illiteracy to be wiped out, the differences in rural and urban percentages in the districts in the following table would help to identify areas where functional literacy and adult education programmes for women must be intensively organised, refining existing statistics, and, if necessary, after interdisciplinary localised investigation into causes of persistent illiteracy in problem areas.

WOMEN LITERATES—DISTRICT-WISE 1971

Districts	Total Population of women	Rural literates	Urban literates	Total literate women
Madras	1,171,502		617,418 (52.70)	617,418 (52.70)
Chingleput	1,400,871	168,149 (18.31)	204,779 (42.61)	373,328 (26.65)
North Arcot	1,846,387	233,274 (15.96)	157,666 (14.01)	390,940 (21.17)
South Arcot	1,776,055	202,094 (13.90)	105,792 (42.26)	317,886 (17.90)
Dharmapuri	824,174	75,984 (10.08)	287,010 (13.49)	102,994 (12.50)
Salem	1,467,190	150,736 (13.97)	140,896 (36.30)	291,632 (19.88)
Coimbatore	2,129,705	240,114 (17.37)	316,446 (42.36)	556,560 (26.13)
Nilgiris	239,061	34,636 (28.33)	49,289 (42.20)	83,925 (35.11)
Madurai	1,953,285	249,811 (19.15)	299,793 (46.19)	549,604 (28.14)
Tiruchirapalli	1,914,553	230,642 (15.42)	217,175 (51.84)	447,817 (15.42)
Thanjavur	1,911,192	327,467 (21.56)	173,360 (44.17)	500,827 (26.20)
Ramanathapuram	1,459,228	2,051,914 (18.99)	162,033 (43.23)	367,947 (25.22)
Tirunelveli	1,631,502	301,335 (27.93)	229,057 (44.03)	539,392 (33.06)
Kanyakumari	605,891	252,450 (50.06)	62,236 (61.23)	314,684 (51.94)
Tamil Nadu	20,330,576	26,92,006 (18.87)	27,62,948 (45.55)	54,54,954 (26.83)

Figures in brackets indicate percentages to the respective totals.

Source: District wise primary Census abstract-1971 (Provisional)

Female workers participation rates :

An important index in assaying the role of women in the economic structure is the worker's participation rate. The change in the census definition of worker in 1971 from the one adopted in 1971 has restricted the number of women workers to those engaged in economically productive activity by physical or mental activities. This has led to a fall in participation rate figures all over the country.

In the 1971 census 36% of the population are classified as workers and 17% of these, 3,448,950 are women. The table below gives the prevailing rates in the four southern states for Rural and Urban women workers.

STATE WISE FEMALE PARTICIPATION RATES—SOUTHERN REGION

State	Total	Rural	Urban
Andhra Pradesh	25.24	28.59	11.05
Karnataka	15.13	16.32	10.75
Kerala	13.68	14.29	5.74
Tamil Nadu	16.96	19.98	9.70
All India	13.18	14.25	7.37

Source : Census of India paper 1 1971 supplement.

THE DISTRICT WISE FEMALE PARTICIPATION RATE IS SET FORTH IN THE FOLLOWING TABLE

Participation Rate (Female) 1971. (P)			
1. Madras	6.69	8. Nilgiris	26.76
2. Chingleput	14.69	9. Madurai	19.33
3. North Arcot	17.03	10. Tiruchirapalli	17.39
4. South Arcot	13.92	11. Thanjavur	12.32
5. Dharmapuri	17.11	12. Ramanathapuram	20.98
6. Salem	20.25	13. Tirunelveli	21.44
7. Coimbatore	21.48	14. Kanyakumari	7.00

Source : Census of India 1971 series1 paper 1 India 1971—supplement P: Provisional

The All India figures show a wide variation but urban participation rates are consistently lower except in Punjab. Tamil Nadu ranks 6th in the rural rate and second in urban rate of participation.

The rate variations raise some relevant queries. It is possible that higher rural rates are higher, owing to easy availability of work near the home, the simple and relatively unskilled nature of agricultural operations, and the seasonality of work—as well as the likelihood of being able to take an infant along—make labour in the primary sector attractive to women. The lower urban rate is in all likelihood due to the higher training required, the longer distances to the place of work, insufficient facilities for child care and nuclear family less time and energy for the household if work is full time.

Some interesting observations are made by Pranab Bardhan regarding the higher ecomomic value of women in paddy-growing areas as paddy is not only a labour intensive crop but traditionally, certain operations are carried out by women. These conjectures would apply not only to the three southern states but to the eastern state as well. In a larger context it raises the question of the social and economic value of women in relation to the ecological conditions and production patterns prevalent in a particular region.

Education :

Education of girls and women in Tamil Nadu in the pre independence period could be compared favourably with levels prevalent in West Bengal and Uttar Pradesh, though some of us have vivid memories at high school and collegiate levels of bright and intelligent contemporaries being married off without much concern for a promising career being destroyed. It was also usual to find some of them returning to their studies prematurely widowed or in unhappy circumstances. Some of them went on to become eminent social workers with a record of service and sacrifice but the picture of a small girl very unhappily watching her wedding sari being cut up into skirts for her sisters as described in a widow's story 'by Monica Felton—epitomises not only a personel tragedy but social bankruptcy.

Women's education in Tamil Nadu has had the obvious initial advantage of most of society being non purdah. The policies of the State government from 1951, the enormous expansion of elementry schools which are co-educational, facilities such as mid-day meals, free uniforms, free schooling to begin with upto SSLC and later including pre university, scholarships for disadvantaged groups have provided the infrastructure for implementing the directives in the constitution. These programmes with their indirect encouragement of women's education are to date our principal instruments in the effort to achieve a levelling up.

The evaluation of the success of the policies framed is evident from the district wise figures of enrolment by stages for girls.

PERCENTAGE OF GIRLS' ENROLMENT IN DIFFERENT DISTRICTS IN 1970-71

District		Percentage of enrolment in classes I to V to total girls' population in the age-group 6-11	Percentage of enrolment in classes VI to VIII to total girls in the age-group 11-14	Percentage of enrolment in classes IX to XI to total girls' population in age-group 14-17
Madras	...	84.4	70.1	50.7
Chingleput	...	82.1	37.7	20.4
North Arcot	...	73.2	30.9	16.1
South Arcot	...	68.6	25.4	11.5
Dharmapuri	...	64.3	18.7	9.3
Salem	...	61.7	29.2	16.6
Coimbatore	...	68.2	34.1	21.9
Nilgiris	...	80.1	46.6	28.0
Madurai	...	80.0	37.9	22.0
Tiruchirapalli	...	76.5	33.2	19.3
Thanjavur	...	78.9	35.7	19.2
Ramanathapuram	...	90.0	36.5	17.9
Tirunelveli	...	87.0	41.6	20.2
Kanyakumari	...	99.4	67.0	52.7

Source: Education of Women and Girls in Tamil Nadu, S. V. Chittibabu, MIDS Seminar July 1971 - Bulletin Vol I No. 7 - August 1971

Despite the fact that every village with a population of 300 and above has an elementary school, except in Madras and Kanyakumari, high enrolment figures at primary levels drop to 28 per cent—Nilgiris—and a low 9.1 per cent for Dharmapuri. A computation of wastage at the end of the primary stage is 50 per cent no separate figures are available for the rural areas and is the basis for what may well be described as the illiteracy rate.

The expansion of girls' education (at the secondary stage it may well be called womens education as in our culture a 14 year old is a very young woman and is expected to take responsibities) - is every uneven and regional unbalances should be investigated and remedied.

In the area of post secondary education, during the years from 1951 to 71, there has been increasing provision for women's colleges and polytechnics. Courses in commercial education have drawn a number of entrants though a full fledged B. Com course has been recently organised in one of the women's colleges in Madras. A retrograde trend is evident in the proportionate fall in the admission of women to medical colleges. In 1965-66 there were 3,918 men students and 1,321 women students in the medical colleges in the State while the corresponding number for 1970-71 is 7,737 men and 1,934 women. This adverse feature needs to be explained in view of the fact that there has been no lack of qualified first classes among the women students in P.U.C. and in B. Sc.,

The area of medical and paramedical education is an important one for the manpower requirements of an integrated approach to women and childrens welfare— and it would be a disservice to the community in the long run to lose momentum in this sector. Not only is policy of explicit encouragement needful but a follow up in terms of security working and living conditions in rural areas for qualified women is an urgent priority

Another area in which women's training and education is of importance is teaching. In 1970-71 there were 5,835 graduate 27,295 matriculate and 46,052 non matriculate women teachers. As there is a shortage of trained teachers in primary and secondary schools, training facilities have been steadily augmented. To encourage women teachers to work in rural areas, housing facilities have also been provided—a significant consideration being the presence of women teachers in mixed schools in encouraging enrolment of girls in rural areas.

It is obvious that free education uniforms and midday meals are not sufficient incentives. A careful strategy is necessary to equalise levels of education. There has been no lagging in official effort but the problem of womens education cannot be solved solely by legislative measures and government effort. A successful drive to equalise education involves changes of attitude on the part of parents and other decision makers in the family and community. Education of girls will continue to have a low priority as long as social customs demand considerable expense at the time of marriage, almost reducing it to a commercial transaction. More difficult to set aside is the prevalence of early marriages. The dimension of this problem is evident as statistics reveal that more than 3/4ths the girls and women in the 15 to 25 year age group are married. There is a common-sense background to this practice as parents in India consider it their duty to ensure stable relationships for their children in their own life time. This concept of extended resposibility however has been a drag on the education of women. Endogamous marriages have also meant that women in a given caste have to be less educated than the men.

At university and professional levels the women involved are not very many in number, belonging mostly to the middle and upper middle classes. The motivation to use whatever has been learnt is not very strong and, in this area, wastage occurs after a course is completed. A sophisticated conservative way of life sees to it that the M.A. and research scholar, the doctor and engineer is married off to an eligible young man and the possibilities of continuing with a chosen career depend on the unpredictable notions of a little known family. This wastage is even more deplorable as in a hierarchical, elite oriented society the example of one's betters has an effect out of all proportion to their numbers.

Employment :

In 1971 the female working population of Tamil Nadu numbered 3,448,950, 16.96 per cent of the total population. Of these industrial categories cultivator and agricultural worker account for 66.76 per cent and other workers for 34 per cent. In an industry-wise classification worked out by the Directorate of Employment and Training women working in the organised sector constitute 0.23 million or 14.92 per cent of the total. The majority (47.44 per cent) are employed in agriculture forestry fishing and live-stock. As mentioned earlier in the Chief agricultural activities

in Tamil Nadu centre round paddy cultivation where women labourers are engaged at various stages. Another such specific area is plantations. Agriculture is also the sector in which wages of women workers are substantially lower than those of male agricultural workers despite long hours and back breaking labour.

In the urban sector while buses and trains are full of women of all ages going to work and returning after a long day in all probability after some extra classes in typewriting, shorthand, accountancy etc. Independent incomes have not led to any notable change in their attitude towards work, personal decision making or a sense of direction in their own careers. In an informal survey conducted a few years ago of a sample of working women with education above S.S.L.C. but below first degree principal reasons given for working were to help a household budget beleagured by inflation, to save money for marriage, to provide better education for children. There was no feeling that income could be disposed of according to an individual assessment of needs and there was an acceptance of the right of ones parents or husband or father-in-law to make most of the decisions. The series of interviews left an uneasy feeling that a new form of exploitation is in the making. The only relieving feature was that a number of working mothers with young children had some family member looking after the youngster of pre-school age.

At the apex of the employment pyramid are the IASs, the doctors, a scattering of business women and executives the specialists in various disciplines and the collegiate teachers. These are few in number but for the few ambitious members of the white collared group something of a beacon. This group has no problems in the plane of day to day living but the fine drawn adjustment between the demands of a family—even if nuclear and firmly limited in number—and a successful career creates stresses and strains which are daily companions. These are perhaps increased by the deliberate effort to get over the unconscious conditioning of societal concepts of 'true femininity'.

(Working mothers in white collar occupations) a study carried out by the Madras School of Social Work in Madras City describe the primary reason for working as economic. In Madras City a mother is more likely to be working if she is a Christian, there is no adverse effect on health or child bearing but concern amounting to misgivings about the Proper care of children. They look after the financial affairs of the family more often than non-working mothers - and employment does not have a significant effect on family accord. The data in the study however indicates acceptance from elders husband etc of a passive kind and no information is forthcoming about household tasks shared, the effect of mother's employment on children has yet to be studied.

Women's Welfare:

The State has a strong cadre of voluntary organisations which were pioneers in the field. The Avvai home with its emphasis on nursing, midwifery and a formal education content the Andhra Mahila Sabha, the Guild of service which has organised a Technical Training Institute for women and a working women's hostel for the women employees in the lower income groups, and institutions which have provided shelter and occupation for orphan girls and destitute women making them independent and self-respecting citizens instead of leading a life of unpaid servitude.

These institutions have moreover mobilised the educated middle class women's energies and capacities towards the betterment of the needy and less fortunate numbers of society.

Tamil Nadu has made an early start in treating the welfare of women and children as a State concern. The institutional structure with the Department of Women's Welfare at its apex and district women's welfare officers, mukhya sevikas and grama sevikas at Panchayat Union and village level lays stress on the welfare of women and children in rural areas. With the integration of the activities of three agencies in 1961, the State Social Welfare Advisory Board, the Women and Children's Welfare Activities of the Community Development Organisation and the Women's Welfare Department has achieved a cohesion in the welfare programmes and a joint effort by voluntary and official organisations under the State Social Welfare Board.

Womens Welfare Branches in municipal areas deal with social education, adult literacy, cottage industries and pre-school classes for children. There are craft training and production centres established with the assistance of the harijan welfare department. Mahalir Manrams have been established in rural areas, the original criterion being at least 30 manrams in each panchayat union to function as social education and craft training centres.

The State Social Welfare Board has recently suggested that an evaluatory study of the Mahalir Manrams be carried out by a leading non-official womens organisation in Madras. The manrams are basically training institutions and cannot meet the employment and marketing needs of the 8.30 million rural and urban women in the State who live below the poverty line and follow ill paid seasonal occupations. They are however an organised activity and their scope of activities should be widened and their functiong streamlined to fulfil the Perspective Plan approach which integrates craft training, employment and marketing with emphasis on self-employment.

Personal Status :

To complete this profile of 'Women in Tamil Nadu' what is her status not only the composite rights and duties that are her individual portion in her role as wife, mother, daughter-in-law but the degree of subordination in the home, her education, the number of sons she has, the number of utility items she uses, her participation in public life, her decision making in family affairs and self-perceived image in the home and in the community? It would take the pen and insights of Rabindranath Tagore to find a single penetrating answer.

As a beginning a study of 'The Sratus of Married Women in Haryana Tamil Nadu' attempts a composite measure. The criteria selected are (a) educational level, (b) employment status, (c) economic status, (d) perception of one's status within the home and the community, (e) decision making role with regard to domestic affairs and family planning and (f) the number of restrictions imposed on one's activities and freedom. Additional criteria includes the number of living sons. The Tamil Nadu sample consists of 399 rural women and 76 urban, the respondents are mostly from the cultivator and artisan class. In summary, the findings are: (a) a high percentage of the sample are illiterate. (b) 41 per cent of rural women and 31 per cent of urban women in the sample are employed

outside the home, (c) even on traditional areas of major responsibity preperation of food and care of children, women report a subordinate role with joint decisions on matters such as purchase or sale of property. wife's employment education and disciplining of children. (d) In matters of family planning the major decision making role has been the husband's - specially in rural areas. The survey reports joint decisions as the general pattern. (e) Restrictions on day to day matters were numerous in both rural and urban samples. The negative elements are a persistent traditionalism, a discouragement of the notion of economic independence even if women are employed, a lack of awareness of women's rights especially in rural areas, a high percentage are tied down to daily drudgery and there is no time for self-improvement or paticipation in organised community life. There is, in sum, no enjoyment of de facto equality.

The Social Frame :

Throughout a long period of political and cultural stress in India's History, women in Tamil Nadu have enjoyed a more open social life in comparison with those in northern India. They have heen active participants in the development and conservation of the many splendoured composite culture which evolved on the sub continent during the centuries commencing with the life and ministry of Gautama Buddha and encompassing the intellectual and metaphysical flowering of the period dominated by Adi-Sankara and Ramanuja. It was these two 'South Indians' (neither would have recognised the expression!) who gave 'Indic' civilisation its final authentic form and it was in Southern India that this form continued to exist and develop through the years of political confusion and change that followed the Islamic incursions. The women of Tamil Nadu have maintained a cultural continuity over the *millennia* ranging from the simple **Kolam** at the threshold to the cultivation of music and the fine arts and orher forms of literary and artistic expression. Alongside this, they have also retained characteristic social customs such as marriages between maternal uncle and niece and cross cousins. These have definitely made for less tension in interfamilial relationships and for an overall cohesion but have also created problems arising from genetically transmitted disabilities. This conscious traditionalism has to be allowed for in planning and working out programmes of Social Education in as much as we have opted for change through reform and not revolution.

It is not a very happy augury that the majority of educated women have in the last two decades become more conservative and tradition-minded than their mothers were. It is a matter for serious concern that there has been a retreat into a passive acceptance of de facto second class status, a connivance at caste discrimination, of invidious and exclusive social observances, outright social evil in the form of open or disguised dowry taking, conspicuous consumption, and parochial thinking. This apathy is likely to set at naught all the gains achieved so far.

A bright feature is relatively high rates of participation in the elective process. The women, illiterate though they are have a lively appreciation of issues involved and have proved a decisive factor in ushering in changes at civic and State level. A study-in-depth in this area would convey useful insights.

Prospects and Perspectives :

It is clear from the array of statistics

marshalled herein that women in Tamil Nadu are the State's most solid and least effectively utilised asset. According to the State Planning Commission computations, 8.30 million women rural and urban live below the diatetic poverty line in the State. The first priority is to identify their essential needs.

These are : Adequate health care is a need common to both rural and urban women, but rural women have to go longer distances to obtain it for themselves and their children. Over and above the primary health centres and expansion of in-patient medical care, would it be feasible to instal a small dispensary in every primary or elementry school for simple remedies and basic immunisation programmes. This can be run by specially trained local personnel with weekly or bi-weekly visits from nursing and medical personnel.

A special rural need is safe drinking water—and easy accessibility is a primary priority. In terms of day-to-day energy—and avoidance of gastro-intestinal disease which accounts for a sizeable part of infant and child mortality even supplying drinking water by mobile tanks to villages with unpotable water is worth while in view of the beneficial effect in a number of areas—including family planning.

In education, the first priority is Social Education for the 15-40 age group of women in the rural areas, The Mahalir Manrams should have adult education centres as well as pre schools as part of their programme. This activity must be organised at times when the seasonal demand for women's labour is low and regional variations in farming activity must also be taken into account. Functional literacy programmes have to be skill creative and need oriented meeting the specific requirements of rural and urban women. This approach however must bear in mind the fact that women's role in India has been functionalised to suffocation point by sociological concepts underlying indigenous culture and has led to an atrophy of capacities. Programmes of functional literacy and non formal education must be designed to include some additional components to stimulate the mind and widen their horizons.

In the field of formal education there is an increasing tendency to think of women's education as something that can be watered down—like milk given to girl children. The trend towards employability and practical requirements must not mean introducing discrimination by the back door.

Post-primary women's education must have a built in employment content. Owing to changes in patterns of family structure, there should be an active capacity to be economically independent instead of reliance on uncertain collateral goodwill. The emphasis of such training should be on self employment, ranging from production of consumer articles to laboratory technology, and servicing of engineering equipment, depending on individual capacity.

With the norm of smaller families becoming popular, women, rural and urban will have more time and energy and a shelf of development programmes in which they could be employed should be in readiness. This would require some specific types of intensive training and patterns of employment to suit part time workers.

In the area of existing rights of women, a special periodical review should be undertaken of legislation pertaining to

Land Reform and distribution as well as tenancy rights to ensure that no discriminatory features get included.

An area where inequality is the rule is wages for work done. In the unorganised sector lower wages and longer hours are a built in inequity and even relatively educated and better skilled white collared women employees are being given less than a fair deal—advantage being taken of first generation hesitations, on the assumption that the income is pocket money etc. Even at professional and executive levels it needs unusual expertise to be given due recognition and—more important—fair treatment.

In the realm of attitudinal changes, the discussions provoked by the International women's year have brought some interesting grievances to the surface. A characteristic instance is the protest against special arrangements for women in public transport—a little reflection would make it obvious that a woman going home from a day's work walks straight into some more work waiting for her at home, while the gentlemen meet a happier fate. The provision for special facilities does not in any way make them unfit for equal status. Another problem is the habit of thought of women themselves. A determined effort has to be made to weed out minor and major inequalities in areas ranging from the upbringing of children to the assessment of work performance, such problems of discipline and motivation as might arise are first generation and transitory in nature and do not call for derogatory comment but skilful management.

Conclusion :

A final thought: Though there has been some administrative integration in the area of women's welfare, the planning has been departmentalised under the different sectors. The assessment of progress made in areas of special concern to women reveals limited gains. Is there a likelihood that the various literacy education, craft training, nutrition and health care programmes would have been more effective if a different approach had been adopted in planning and implementation ?

Our plans have been based on the assumption that programmes for spedial groups should not be planned in isolation from the sectoral programmes concerned. Is there a possibility that there should have been a special co-ordinating group at planning level ?

The Perspective Plan of Tamil Nadu broke new ground in Development Planning. Even now it would be worthwhile organising a planning group for women. The mobilising of the capacities and resources of 49 per cent of the State's citizens is no mean objective, and may well be crucial to the achievements of the State's development goals.

Some References :

1. A New Society Through Renaissance in Tamil Nadu

   Report of the Task Force on Human Resources and Social Change Vol. II.
   Tamil Nadu State Planning Commission

2. Towards a Progressive Tamil Nadu

   Report of the Task Force on Rural Development Vol. I.
   Tamil Nadu State Planning Commission

3. Towards a Learning Society
Report of the Task Force on Education
Tamil Nadu State Planning Commission

4. A Demographic Appraisal of Tamil Nadu—1972
Government of Tamil Nadu 1972

5. An Economic Appraisal—1972 (Tamil Nadu)

6. Census of India—1971—1

7. Education of Women and girls in Tamil Nadu—S. V. Chitti Babu
M.I.D.S. Seminar July 1971—Bulletin Vol I No. 7 August 1971

8. Status of Married Women in Haryana, Tamil Nadu and Meghalaya—B. N. Mukherjee;
Social Change—Vol IV No. 3 March 1974

9. Trends of Fertility Behaviour reflecting 1970 the Status of Women—Kumudini Dandekar, Social Change, Vol. IV Nos. 3 and 4

10. Female Work Participation—Leela S. Gulati, Economic and Political Weekly; Vol. X No. 1 and 2 January 11th 1975.

11. Woring Mothers in White Collar Occupations; Madras School of Social Work;

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Summary of Discussion

In the discussion of the paper at the Seminar held in the Seminar room of the Institute on Thursday 25th September, 1975, the author, in presenting the paper, pointed out that the Madras Institute of Development Studies had, since its inception, concerned itself not only with development concepts and strategies but with intensive analysis of the problems of the underprivileged and the disadvantaged. "Women in Tamil Nadu" is one such category. The underlying assumption of the paper is that women in no area, no age group, no income group and no caste, have escaped the widespread effects of the discrimination that has built up through the ages. The main sectors highlighted consist of literacy levels, work participation rates and the progress made in formal education—the two former items on a regional basis. The areas of women's employment, both rural and urban and the patterns of activity have been referred to. The unequal wages in return for traditional occupations in the agricultural sector called for a measurement of the productivity of their labour as the first step for establishing a fair wage structure. In this context the whole concept of dependency needs revision. The farmer's wife and daughter helping on the land and looking after the farm animals, the fisherwomen

marketing the catch and mending the nets, the vendor of vegetables and flowers, the maker of appams in an urban slum are not dependents even if their incomes are small. The finances for these activities are generally raised by pledging vessels to pawn brokers and by other shifts and contrivances. An idea of prevailing interest rates is conveyed by the fact that the flower seller taking a loan of Rs. 10/- for the day pays an interest of Re. 1/- an interest of Rs. 365/- per year. The impact of primary credit societies and marketing centres will have a significant effect in improving the earnings of this sector in which so many women are engaged. Regarding the acceptance of the idea of limited families, recent studies indicate some success in urban areas. If family planning efforts are to be effective in rural areas, the nature of the social structure requires a more subtle approach. An important factor is the personality of the welfare worker who should be of mature years with a family of her own as in China. There is also the deeply rooted feeling that children are among the few sources of happiness. Referring to the social and economic legislation in the country of special concern to women, it was pointed out that it had cleared most of the obstacles but the task was not yet complete. In this context the Cuban Family code was mentioned as an example, though such a code in India to be useful should have some regional variations. Psychologically the women in Tamil Nadu do not seem to have any feeling of inferiority. Another favourable factor making attitudinal changes easier is the day to day co-operation in agricultural tasks in a paddy growing rural culture. It should not be forgotten that the first step in this process of change is the revision of the attitude of women towards each other and towards the work they do. The UNESCO in a resolution passed at its 18th General Conference in 1974 envisages a world wide effort to improve the status of women. It invites member states " to design programmes to promote the participation of women on an equal basis with men into social and economic development". It will be useful to spell out some of these programmes at State level.

In the discussion following upon the presentation of the paper, a comment was made regarding the need for detailed statistics for the drop-out rates of girls. The present structure of education providing the same system of education to both men and women was queried. In this context, it was accepted that up to a minimum level both boys and girls should follow a common curriculam. The present system of co-educational schools up to standard VIII could continue with advantage, while at higher stages the decision could rest with parents. At collegiate levels women's educational institutions could experiment with part time courses of study in view of the fact that this would enable a large number of women with domestic responsibilities to continue their studies. A disquieting aspect is the immobilisation of the skills of girls and women who are married off after a course of study, even if it is specialised training in medicine, science or engineering. This is a wastage in human resources which a developing country cannot afford. It was observed that women have some special skills and aptitudes which should be identified and developed. These skills cover a wide spectrum from music and fine arts to special dexterity in handling and operating sensitive equipment. It was pointed out that in Western Countries stenography was a profession monopolized by women. There was general agreement that women had, in the present economic context, become breadwinners in their own right and that remuneration should, therefore, be structured on the basis of

equal pay for equal work. A desirable feature would be the provision of flexible working schedules in the organised sector for family women as recently introduced in the United Kingdom. With reference to women working in manufacturing industries, a point was raised as to the usefulness of educating women at the Polytechnic level and attention was drawn to the fact that certain industries manufacturing electrical and electronic components preferred women workers and technicians. Apart from employment considerations, in the area of adult education the view was expressed that the programmes for women would have a greater success if the men in a given community were involved in such learning along with the women—a method found effective by the Gramsiksha Mohim in Maharashtra. To ensure rapid progress of women in areas of special concern to them, a forum to express their views and discuss their problems and an agency to synthesise programmes and perspectives were essential instruments. In this area of social engineering the primary school teachers, who number more than a lakh in the State, could be engaged to advantage, an alternative group would be the various party cadres. Another suggestion was the activation of the numerous voluntary agencies which have no political complexion, instead of imposing a further burden on the overworked primary school teacher. In discussing the demographic characteristics of the population, the increasingly adverse sex ratio (fewer number of women) was commented upon as there were no discriminatory practices like female infanticide or other external circumstances to explain this trend. Another demographic factor was the perceptible increase in urbanisation which would perhaps have a solvent effect on traditional attitudes.

The picture that emerges of women in Tamil Nadu is of hesitation and hope ; years of having decisions made for them, their pattern of living laid out for them from the cradle to the grave, leading to uncertainty about their own capacities to deal with the forces of social and cultural change: The hope lies in the efforts being made to create a culture of equality to identify their problems and find solutions for them, to make them aware of their individual identities and mobilise their energies towards the vitalising task of shaping the future—their own, the State's and the Country's.

ENERGY CONSERVATION *

Energy Sources :

Our sources of energy in India, let us recall, are multiple. They comprise human and cattle power, animal dung, wood and jungle fuel, coal, and lignite, crude oil, and its many products, water and geothermal energy, hydel and thermal power, nuclear power and the nascent solar, wind and tidal power. The problem that we face as energy users is both a long-term and a short-term one, which you, the Institution of Engineers, your colleagues in the other co-sponsoring institutions and that great engineering pioneer Dr. Visveswarayya have, so clearly visualised in your research publications and meetings. The long-term problem is that energy based on fossil fuels is finite in this country and every country in the world. We consumed power at a rate equivalent to 19 billion tonnes of coal per century till 1850, which went upto 190 billion tonnes in the following 100 years ending 1950, and is now proceeding at the rate of 380 billion tonnes projected for the remaining years of the century against a resource stock estimated at 3,800 billion tonnes. Our fossil energy stocks will last at the current rate of consumption upto 2050 A. D., only, and even that if (a) we and the rest of the world do not move towards the per capita energy consumption of the richest country the U.S., and (b) our population explosion is controlled. The short-term problem is that the crude prices escalation has made that form of energy uneconomical, our hopes of an early nuclear energy breakthrough have not been realised, and we are still groping around with regard to what is mistakenly misnamed non - conventional energy sources—that from the sun, wind, and tides. How then do we meet our growing energy demand on which the projected 8-10 per cent rate of industrialisation in the Fifth Plan and 4 per cent rate of growth in agricultural production is predicated?

One answer to this worrisome conundrum of limited supply sources of energy which simultaneously are the prime input into our national development is energy conservation. I mean by energy conservation: (a) increased exploitation of our energy sources, (b) economy in their use and (c) an optimal pattern of using and replenishing our energy sources. I would like to deal with each of these three facets **ad seriatim.**

Generation :

The first task in energy conservation is the increased production of such energy sources as we are endowed with. It may seem curious to talk of increased exploitation under the theme conservation. Unlike the Soviet Union, U. S. or Canada, we have not even begun to use our energy sources. Hence before we can conserve, we must produce something which we can conserve. Accelerated production

* Extracts from the Presidential Address by Dr. Malcolm S. Adiseshiah on the occasion of the Seminar on "Energy Conservation—Capacitors" conducted by the Institution of Electronic Engineers (London) and Institution of Engineers, India (Tamil Nadu Centre), on September 14, 1975

is for us the first step in conservation. The immediate increases to be aimed at are the first in indigenous crude production which should increase next year by one million tonnes and by the end of the current Plan by 10 million tonnes as a result of the strike in Bombay High, which together with the 7 million tonnes now produced by ONGC and Oil India will mean that we will be meeting 50 per cent of our oil requirements as computed by the Fuel Policy Committee. All support should be given to the various onshore surveys and operations in the Himalayan foot-hills, Punjab, U.P., Bihar, Jaisalmer and Assam Tripura and the off shore surveys in Rameswaram and Cauvery, Kerala, the Gujarat and West Bengal coasts as a means of increasing our supply of oil and gas. The second source which needs to be augmented is coal. Here we have the resource in abundance under the soil. The problem is to get it up and out and transport it to the hungry consumers. On this I feel somewhat more optimistic than when I addressed you last year, because it looks as if we will be producing 100 million tonnes this year and should be able to attain the plan target of 135 million tonnes by 1978-79. With the recent price rise and improved rail transport, this energy source should be more fully available. The third energy source which must be speedily augmented is our electric energy. This involves not only completing the hydel and thermal stations on time in order to assure the capacity increase of 2,600 MW planned for this year and the 16.55 million KW generation targetted for the Fifth Plan, but also improving the availability and transportation of the primary fuels for thermal plants, namely coal and lignite, dealing with the effects of modifying the regime of rivers, the settling of inter-state water disputes in the case of hydel stations, and countering atmospheric and water pollution and the encroachment on scarce urban, agricultural and forest lands.

Economy :

The second imperative in energy conservation is economy in the use of our fuels. The most important is to economise on the use of crude. Apart from cutbacks in the use of petrol which have been achieved to the extent of 20-30 per cent very largely by raising its price, your own 1974 March seminar pointed to the major possibilities of economy in calling for conversion of oil firing equipment to coal firing, and the development of alternative designs, prototypes and working equipment for this purpose on a crash basis. This economy principle can be generalised as a principle of substitution—the substitution of oil and oil products by other fuels. Kerosene can be replaced by coal gas or soft coke in the urban areas and wood and lignite briquettes and cow dung in the rural areas, railways' diesel use can be replaced by a well organised electrification programme, the pump sets' use of light diesel can be replaced by electricity, and power plans, industrial heat and fertiliser plants feedstock can replace fuel oil by coal. This economy programme became also economically viable when crude prices shot up over fourfold two years ago. We have a three year time to make these switches from oil energy to energy from coal, and coal-fired or hydel-based electric energy. I must confess that we have lost the greater part of the two years in doing little in planning and executing this switch over. Similarly, economy is possible in the other major energy source, electricity—starting with simple economies, such as reducing the domestic and industrial use of power for non productive purposes, such as air-conditioning, lighting, reduced idling of motors and machines, moving on to pro-

cess economies, techniques for flattening the peak hour power demand curve through restructured tariffs and specially designed peaking facilities, reducing our enormous transmission losses and ensuring a minimum adequate maintenance of our thermal plants and generating sets.

A Policy :

I end with the third facet of energy conservation, namely an optimal pattern of using and replenishing our energy resources. Here I must begin by repeating once more what I said to you 18 months ago, namely the urgency of creating a National Energy Board which can lay down an energy policy and oversee its integrated and speedy execution. We have now a Union Ministry of Energy and at last two of our major energy sources—coal and electric power—are under its purview. But we need an energy policy—covering present and future generation, distribution and conservation along lines laid down by the Fuel Policy Committee. Such an energy policy and consequent energy conservation are no simple matter : they are a function of economic policies, industrial, agricultural and export policies, urbanisation and demography policies: they are related to transportation net works, present and future, the energy intensive versus non-energy intensive industrial structure, and associated fiscal incentives and disincentives. There is also the urgent need to carve out priorities as between the five areas delineated by the Fuel Policy Committee in launching a well conceived R & D programme, namely,

Conservation of Energy resources;
Environmental protection;
Fuel substitution;
Fuel efficiency;
Materials recycling; and
Standardisation and redesign of energy consuming equipment.

I can only plead once more for setting up the Board and authorising it to lay down policy, plan for time and space-bound development of our coal, lignite, oil, gas, electricity, nuclear, non-commercial and non-conventional energy schemes, to optimise their production—mix through systems analysis, to make benefit-cost feasibility studies of projects and monitor their execution.

Stockpiles :

Another aspect of energy conservation is to develop stockpiles of the primary fuels—5 to 10 years in the case of nuclear fuels, such as uranium, in which we are short; thorium and monazite where we are well endowed; 6 months to one year in the case of coal, and similar time defined stocks for our bio-gas, solar and other non-conventional energy sources. In a sense we are lucky to have had a slow moving economy, which has averaged around a 3 per cent compound rate of growth over the last two and a half decades of planning. If we had attained our targetted 5 per cent growth rate over the last 10 years, leaving alone experiencing the kind of economic miracle of a 7 to 10 per cent growth rate which Germany, Japan and Korea have experienced over the past five to ten years, we would have been in deep trouble over our energy resources—their low levels of production, distribution and conservation. We would have had an even higher regime of energy prices than we have had, and we would have faced such acute shortages that we could not have obtained some forms of energy even at very much higher prices. I am hoping that we would be moving to a 5-7 per cent growth during the remainder of the Fifth and in the Sixth Plans. For that, energy conservation in the form of building up fuel stockpiles is necessary and I commend this programme to you.

Self renewing sources :

I end with the energy conservation implications of such self-renewing sources as developing our gobar gas and bio-gas potential, our solar energy which we are already using to convert our animal waste and raw green woods into fuel and for drying and storage of our rice, wheat, ragi, cumbu and cholam and whose principle has to be extended for other uses, coal gassification and liquification and our fast breeder reactors. Another self replenishing and conserving source which we are not using is our tides which can be used for our turbines through a combination of filling, emptying and pumping. With a coast line of over 35,000 miles, we have a tidal range at many points which can be used fruitfully for energy supply and conservation.

Energy is the one area where there is no alternative to self reliance here and now and in the future. Our development—to eradicate poverty with continuously accelerating production and equitable redistribution means that we must act now to expand, develop, redevelop, transmit, convey and distribute our energy resources, and do all this in a manner which will conserve them. For me a sound policy of energy production and development is also a sound means of energy conservation. Let us now turn to this urgent task.

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